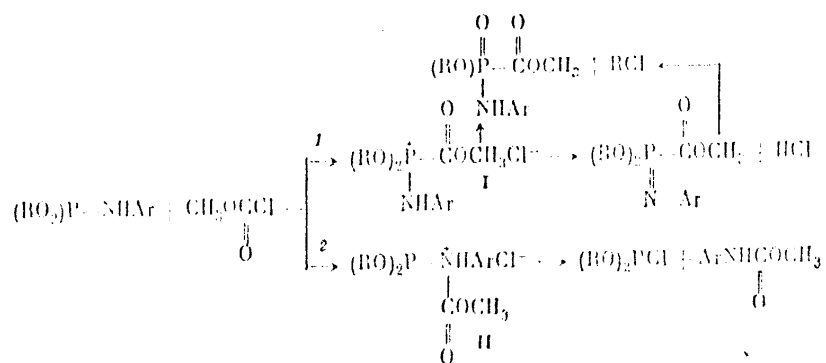


USSR

PUDOVIK, A. N., Zhurnal Obshchey Khimii, Vol 42 (194), No 6, Jun 72,
pp 1235-1238



The reaction through the phosphorus atom yields phosphonic derivatives, while that through the nitrogen atom yields dialkyl phosphorous acid chlorides and methylcarbonic acid anilides.

USSR

UDC: 547.26'118

PUDOVIK, A. N., BATYKEVA, E. S., ~~ALIFONSOV, V. A.~~, Institute of Organic and Physical Chemistry imeni A. Ye. Arbuzov, Academy of Sciences of the USSR

"Concerning the Reaction of Dialkyl Phosphorous Acid Anilides With Methylcarbonic Acid Chloride"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), No 6, Jan 72, pp 1235-1238

Abstract: The authors studied the reaction of secondary amides of dialkyl phosphorous acids with methylcarbonic acid chloride. Reactions of anilide, p-toluidide and p-aniside of diethyl, dipropyl and dibutyl phosphorous acid with methylcarbonic acid chloride were accompanied by an exothermal effect with the formation of alkyl halide. The reaction of diethyl phosphorous acid anilide with methylcarbonic acid chloride yielded diethyl chlorophosphate (60%), methylcarbonic acid anilide (55%) and ethyl O-ethyl anilidocarbonyloxyphosphate (20%). The results indicate that the reaction goes in two directions simultaneously: with initial attack of the carbon in the carbonyl group both by a phosphorus atom and by a nitrogen atom:

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2/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0133409
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PAPER IS CONCERNED WITH THE RESULTS OF A DETAILED CLINICO BIOCHEMICAL EXAMINATION OF 650 PATIENTS WITH ACUTE VIRAL HEPATITIS AND IN THE RESTORATIVE PERIOD; 64 CONVALESCENTS UNDERWENT ASPIRATION BIOPSY OF THE LIVER. AN ANALYSIS OF CLINICO MORPHOLOGICAL CORRELATIONS MAKES IT POSSIBLE TO DEFINE THE CLASSIFICATION AND DIFFERENTIAL DIAGNOSIS OF THE REMOTE SEQUELAE. IN ADULTS VIRAL HEPATITIS TERMINATES BY COMPLETE RECOVERY IN 69.1 PERCENT OF CASES, DIFFERENT RESIDUAL MANIFESTATIONS ARE RECORDED IN 15.7PERCENT, INFLAMMATORY LESIONS OF THE BILIARY TRACT, IN 11.5PERCENT OF CONVALESCENTS; CHRONIC HEPATITIS DEVELOPS IN 3.2PERCENT AND CIRRHOSIS OF THE LIVER, IN 0.5PERCENT OF PATIENTS. FACILITY: KLINICHESKY OTDEL INSTITUTA VIRUSOLOGII IM IVANOVSKOGO AMN SSSR I MOSKOVSKAYA GORODSKAYA KLINICHESKOGO INFEKTSIONNAYA BOL'NITSA NO 82.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--THE CLASSIFICATION OF REMOTE SEQUELAE OF INFECTIOUS HEPATITIS -U-
AUTHOR-(03)-FARBER, N.A., ALFINYAN, V.M., KUTCHAK, S.V.
COUNTRY OF INFO--USSR A
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CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
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USSR

ALFINTSEVA, R. A., Poroshkovaya Metallurgiya, No 1 (97), Jan 71, pp 83-87

phase of a metallic nature with molybdenum which is in equilibrium with another phase differing little from the pure molybdenum. Disperse particles of aluminum nitride are stable in the molybdenum matrix at temperatures up to 1,800°C. No interaction or formation of a new phase was noted at these temperatures.

The composition and density of molybdenum alloys with boron and aluminum nitrides and the microhardness (kg/mm²) of molybdenum alloys with BN and AlN after sintering with hot extrusion and annealing at various temperatures under a load of 20 grams are tabulated.

2/2

USSR

UDC 661.55

ALFINTSEVA, R. A., Institute of Problems of Material Science, Academy of Sciences Ukr SSR

"Behavior of Boron and Aluminum Nitrides in the Molybdenum Matrix"

Kiev, Poroshkevaya Metallurgiya, No 1 (97), Jan 71, pp 83-87

Abstract: A study was made of the interaction of the disperse phase of boron nitrides (α -BN) and aluminum nitrides with the molybdenum matrix. The introduction of disperse particles into a metal is a prospective method of obtaining lattices weakly undergoing stress relief with an increase in temperature and resistant to the development of processes of collective recrystallization. One of the decisive factors determining the selection of the hardening agent is chemical interaction of the disperse phase with the metal matrix. The disperse phase must not interact with the metal matrix at all temperatures of use of the composition material. As a rule, refractory oxides, carbides, nitrides, and silicides are used as the hardening disperse phase.

It was discovered that disperse boron nitride particles are unstable in the molybdenum matrix, and at a temperature of $1,600^{\circ}\text{C}$, they form a new solid
1/2

USSR

UDC 669.28.293.297.017.13

SVECHNIKOV, V. N., SHURIN, A. K., and ~~ALEINTSEVA~~, R. A., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Investigation of Phase Equilibria in Alloys of the Molybdenum-Niobium-Hafnium System"

Kiev, Metallofizika, No 32, 1970, pp 25-27

Translation: The phase composition of molybdenum-niobium-hafnium alloys was studied by methods of metallographic, x-ray structural, and durometric analysis. Isothermal sections of a triple phase diagram at temperatures of 1800° and 1500° C were constructed. The composition's effect on the hardness and parameter of the crystal lattice of a solid solution with a body-centered cubic lattice was determined.

1/1

USSR

UDC 548.517

OVSYENKO, D. YE, ALFINTSEV, G. A., and MASLOVA, V. V., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Effect of Silicon and Manganese on the Supercooling of Iron"

Kiev, Metallofizika, No 39, 1972, pp 102-105

Abstract: The effect of silicon and manganese on the supercooling of iron samples (almost 4 cm³) melted under a slag and the supercooling of Fe-Si alloys in small volumes (10⁻⁵-10⁻⁸ cm³) was investigated. The supercooling of iron and Fe-Si and Fe-Mn alloys with different concentrations of silicon and manganese when melting under a slag was approximately 265°, from which the conclusion was made about the absence of an effect on the kinetics of iron crystallization from manganese and silicon. It was established that supercooling of iron in small volumes increases with increased silicon concentration in the alloy. This is explained by the action of silicon as a deoxidizer. It is assumed that the decrease in supercooling of iron, observed by a number of authors (or its complete removal), upon adding silicon, is associated with the effect of iron oxides. 6 figures, 10 bibliographic references.

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USSR

ALFIMOVA, YE. YA., KOL'TOVER, V. K., and RAYKHMAN, I. M., Branch of the Institute of Chemical Physics, Academy of Sciences USSR, Chernogolovka (Moscow Oblast)

"Luminescent Probe Study of Conformation Changes in Endoplasmic Reticulum Membranes"

Moscow, Biofizika, No 6, 1972, pp 1043-1047

Abstract: The dye 1-aniline-8-naphthalene sulfate (ANS) whose fluorescence varies with the degree of hydrophoby of the surrounding medium was used to detect and study conformation changes in microsomal membranes of liver cells induced by alterations in the ionic composition and temperature. Calcium in low concentrations (1 to 3 mM) markedly increased the intensity of fluorescence of the microsomes produced by the dye and the corresponding curve was more distinctly S-shaped than the curves reflecting the addition of other cations. The latter in large concentrations (100 mM or more) intensified the fluorescence of the dye bound with the microsomes due to interaction with the lipid components of the membranes. Analysis of the temperature factor revealed the thermal structural changes characteristic of cooperative systems.

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USSR

UDC: 621.371.25

ALIMOV, V. A. and KILASHOV, G. P., Radiophysics Research Institute

"Scattered Signal Fading During the F_{sp} Phenomenon in the Ionosphere"

Gor'kiy, Izvestiya VUZ--Radiofizika, No 10, 1972, pp 1561-1583

Abstract: The F_{sp} or F-spread phenomenon refers to the situation in which a sounding pulse reflected from the F-region of the ionosphere is of much longer duration than the pulse itself. Because earlier experiments investigating this phenomenon suffered from errors, the authors propose their own observations of F_{sp} , made on March 1971, at the vertical ionosphere sounding station in Zimekakh. In these observations, pulses with a repetition frequency of 50 Hz and a duration of 100 μ s were used for the soundings, and the receiver had a band width of 30 kHz. The scattered signal was observed on an A-scan oscillograph. Curves are given of typical amplitude distributions for the pulse leading edge and middle of the scattered signal, and are found to be in close agreement with those of Nagakami. The authors express their gratitude to A. I. Yerukhinov for his attention to the work, and to N. A. Mazovina for her assistance in preparing the experimental material.

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USSR

BAKINOV, A. I. et al., *Soyuznyy zhurnal*, 1974, No. 1, p. 11, "Kashch", 1974, 11, 11-12.

eters showed that the temperature for hardening of metal of all diameters of wire is the same -- 700°C. Further increase in grain size, or essentially increasing increase in grain size, at annealing temperatures of 1000 and 1100°C. The grain size, the roughness of the surface.

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USSR

USSR: 1974.01.01

1. BAYKOV, A. I., KUPCH, G. A., GORODENKO, D. P., ALIMOV, B. M., KOSYGIN, S. K., LITVINEN, I. I., LITVINEN, K. G.

"Investigation of the Properties of the Binary Alloy Ni-Al in the Area of Deformation and Vacuum Annealing"

Moscow, Izvika vuzovskikh splavov i legirovaniy (Journal of Alloys and Composites--Collection of papers), "Book", 1974, No. 1, 1-10, 11-12, 13-14, 15-16, 17-18, 19-20, 21-22, 23-24, 25-26, 27-28, 29-30, 31-32, 33-34, 35-36, 37-38, 39-40, 41-42, 43-44, 45-46, 47-48, 49-50, 51-52, 53-54, 55-56, 57-58, 59-60, 61-62, 63-64, 65-66, 67-68, 69-70, 71-72, 73-74, 75-76, 77-78, 79-80, 81-82, 83-84, 85-86, 87-88, 89-90, 91-92, 93-94, 95-96, 97-98, 99-100, 101-102, 103-104, 105-106, 107-108, 109-110, 111-112, 113-114, 115-116, 117-118, 119-120, 121-122, 123-124, 125-126, 127-128, 129-130, 131-132, 133-134, 135-136, 137-138, 139-140, 141-142, 143-144, 145-146, 147-148, 149-150, 151-152, 153-154, 155-156, 157-158, 159-160, 161-162, 163-164, 165-166, 167-168, 169-170, 171-172, 173-174, 175-176, 177-178, 179-180, 181-182, 183-184, 185-186, 187-188, 189-190, 191-192, 193-194, 195-196, 197-198, 199-200, 201-202, 203-204, 205-206, 207-208, 209-210, 211-212, 213-214, 215-216, 217-218, 219-220, 221-222, 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1637-1638, 1639-1640, 1641-1642, 1643-1644, 1645-1646, 1647-1648, 1649-1650, 1651-1652, 1653-1654, 1655-1656, 1657-1658, 1659-1660, 1661-1662, 1663-1664, 1665-1666, 1667-1668, 1669-1670, 1671-1672, 1673-1674, 1675-1676, 1677-1678, 1679-1680, 1681-1682, 1683-1684, 1685-1686, 1687-1688, 1689-1690, 1691-1692, 1693-1694, 1695-1696, 1697-1698, 1699-1700, 1701-1702, 1703-1704, 1705-1706, 1707-1708, 1709-1710, 1711-1712, 1713-1714, 1715-1716, 1717-1718, 1719-1720, 1721-1722, 1723-1724, 1725-1726, 1727-1728, 1729-1730, 1731-1732, 1733-1734, 1735-1736, 1737-1738, 1739-1740, 1741-1742, 1743-1744, 1745-1746, 1747-1748, 1749-1750, 1751-1752, 1753-1754, 1755-1756, 1757-1758, 1759-1760, 1761-1762, 1763-1764, 1765-1766, 1767-1768, 1769-1770, 1771-1772, 1773-1774, 1775-1776, 1777-1778, 1779-1780, 1781-1782, 1783-1784, 1785-1786, 1787-1788, 1789-1790, 1791-1792, 1793-1794, 1795-1796, 1797-1798, 1799-1800, 1801-1802, 1803-1804, 1805-1806, 1807-1808, 1809-1810, 1811-1812, 1813-1814, 1815-1816, 1817-1818, 1819-1820, 1821-1822, 1823-1824, 1825-1826, 1827-1828, 1829-1830, 1831-1832, 1833-1834, 1835-1836, 1837-1838, 1839-1840, 1841-1842, 1843-1844, 1845-1846, 1847-1848, 1849-1850, 1851-1852, 1853-1854, 1855-1856, 1857-1858, 1859-1860, 1861-1862, 1863-1864, 1865-1866, 1867-1868, 1869-1870, 1871-1872, 1873-1874, 1875-1876, 1877-1878, 1879-1880, 1881-1882, 1883-1884, 1885-1886, 1887-1888, 1889-1890, 1891-1892, 1893-1894, 1895-1896, 1897-1898, 1899-1900, 1901-1902, 1903-1904, 1905-1906, 1907-1908, 1909-1910, 1911-1912, 1913-1914, 1915-1916, 1917-1918, 1919-1920, 1921-1922, 1923-1924, 1925-1926, 1927-1928, 1929-1930, 1931-1932, 1933-1934, 1935-1936, 1937-1938, 1939-1940, 1941-1942, 1943-1944, 1945-1946, 1947-1948, 1949-1950, 1951-1952, 1953-1954, 1955-1956, 1957-1958, 1959-1960, 1961-1962, 1963-1964, 1965-1966, 1967-1968, 1969-1970, 1971-1972, 1973-1974, 1975-1976, 1977-1978, 1979-1980, 1981-1982, 1983-1984, 1985-1986, 1987-1988, 1989-1990, 1991-1992, 1993-1994, 1995-1996, 1997-1998, 1999-2000, 2001-2002, 2003-2004, 2005-2006, 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, 2017-2018, 2019-2020, 2021-2022, 2023-2024, 2025-2026, 2027-2028, 2029-2030, 2031-2032, 2033-2034, 2035-2036, 2037-2038, 2039-2040, 2041-2042, 2043-2044, 2045-2046, 2047-2048, 2049-2050, 2051-2052, 2053-2054, 2055-2056, 2057-2058, 2059-2060, 2061-2062, 2063-2064, 2065-2066, 2067-2068, 2069-2070, 2071-2072, 2073-2074, 2075-2076, 2077-2078, 2079-2080, 2081-2082, 2083-2084, 2085-2086, 2087-2088, 2089-2090, 2091-2092, 2093-2094, 2095-2096, 2097-2098, 2099-2100, 2101-2102, 2103-2104, 2105-2106, 2107-2108, 2109-2110, 2111-2112, 2113-2114, 2115-2116, 2117-2118, 2119-2120, 2121-2122, 2123-2124, 2125-2126, 2127-2128, 2129-2130, 2131-2132, 2133-2134, 2135-2136, 2137-2138, 2139-2140, 2141-2142, 2143-2144, 2145-2146, 2147-2148, 2149-2150, 2151-2152, 2153-2154, 2155-2156, 2157-2158, 2159-2160, 2161-2162, 2163-2164, 2165-2166, 2167-2168, 2169-2170, 2171-2172, 2173-2174, 2175-2176, 2177-2178, 2179-2180, 2181-2182, 2183-2184, 2185-2186, 2187-2188, 2189-2190, 2191-2192, 2193-2194, 2195-2196, 2197-2198, 2199-2200, 2201-2202, 2203-2204, 2205-2206, 2207-2208, 2209-2210, 2211-2212, 2213-2214, 2215-2216, 2217-2218, 2219-2220, 2221-2222, 2223-2224, 2225-2226, 2227-2228, 2229-2230, 2231-2232, 2233-2234, 2235-2236, 2237-2238, 2239-2240, 2241-2242, 2243-2244, 2245-2246, 2247-2248, 2249-2250, 2251-2252, 2253-2254, 2255-2256, 2257-2258, 2259-2260, 2261-2262, 2263-2264, 2265-2266, 2267-2268, 2269-2270, 2271-2272, 2273-2274, 2275-2276, 2277-2278, 2279-2280, 2281-2282, 2283-2284, 2285-2286, 2287-2288, 2289-2290, 2291-2292, 2293-2294, 2295-2296, 2297-2298, 2299-2300, 2301-2302, 2303-2304, 2305-2306, 2307-2308, 2309-2310, 2311-2312, 2313-2314, 2315-2316, 2317-2318, 2319-2320, 2321-2322, 2323-2324, 2325-2326, 2327-2328, 2329-2330, 2331-2332, 2333-2334, 2335-2336, 2337-2338, 2339-2340, 2341-2342, 2343-2344, 2345-2346, 2347-2348, 2349-2350, 2351-2352, 2353-2354, 2355-2356, 2357-2358, 2359-2360, 2361-2362, 2363-2364, 2365-2366, 2367-2368, 2369-2370, 2371-2372, 2373-2374, 2375-2376, 2377-2378, 2379-2380, 2381-2382, 238

USSR

UDC 911.3:616-02:613.12

ALFIMOV, N. N.

"Acclimatization and Information Theory"

V sb. Akklimatiz. i kraev. patol. cheloveka na Severe (Acclimatization and Region Pathology of Man in the North -- collection of works), Arkhangel'sk, 1970, pp 15-16 (from RZh-Meditsinskaya Geografiva, No 2, Feb 71, Abstract No 2.36.40)

Translation: A method for expressing the level of general body reactivity in terms of one complex index is proposed. The coefficient of deviation of the general body reactivity from the norm is determined by the formula $K = K_F/K_N$, where K_F is the complex index of the general body reactivity under actual conditions; and K_N is the complex index of the general body reactivity for conditions when all chosen indicators of reactivity fall within the limits of the norm.

USSR

UDC 616.001.16+359.64613.67

ALFIMOV, N. N., NOVOZHILOV, G. N., and YEMEL'YANENKO, M. I.

"Heat Disorders Among Ship Personnel During Cruises in the Low Latitudes"

Moscow, Voenno-Meditsinskiy Zhurnal, No 7, 1972, pp 81-86

Abstract: The literature, mostly non-Soviet, on the variety of disorders encountered in ship personnel as a result of exposure to high temperatures is reviewed. These disorders are responsible for a substantial percentage of the total sick rate among naval personnel serving in the low latitudes. They include heat stroke, heat exhaustion, heat syncope, heat cramps, asthenia or transient heat fatigue, and edema of the legs and feet. Each entity is discussed in terms of frequency, cause, and symptoms. A chart based on the literature data shows the possibility of a given disorder arising in relation to the temperature conditions and length of time people are exposed to them.

1/1

2/2 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125246

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SENSITIZED LUMINESCENCE SPECTRUM OF A FROZEN SOLN. OF NAPHTHALENE, D SUBS (I) IN PHME UNDER EXCITATION OF DIFFERENT INTENSITIES AT 254 NM WAS MEASURED. A 100 FOLD INCREASE IN THE PHME EXCITING LIGHT INTENSITY RESULTED IN A SIGNIFICANT SUPPRESSION OF THE PHOSPHORESCENCE COMPONENT OF THE SPECTRUM OF I. THE TIME DEVELOPMENT OF THE PHOSPHORESCENCE AND FLUORESCENCE ON SWITCHING ON AND OFF A POTENT EXCITING LIGHT SOURCE (10 PRIME14 PHOTONS CM PRIME NEGATIVE2 SEC PRIME NEGATIVE1) WAS SHOWN AND, BESIDES THE COMMON SHORT TIME FLUORESCENCE, AN ADDNL. DELAYED LONG TIME COMPONENT OF THE RADIATION WAS OBSD. THE DELAYED FLUORESCENCE FADED OUT IN 3 TIMES 10 PRIME NEGATIVE4 SEC AND ITS INTENSITY WAS PROPORTIONAL TO THE EXCITING LIGHT INTENSITY MULTIPLIED BY THE CONCN. OF THE TRIPLET MOLS. OF I. THE DELAYED FLUORESCENCE WAS ASCRIBED TO AN ANNIHILATION INTERACTION OF THE TRIPLET EXCITATIONS OF PHME BY THE TRIPLET MOLS. OF I. ITS TIME DEPENDENCE WAS DETD. BY THE RATE OF ACCUMULATION OF THE TRIPLET MOLS. OF I AND BY THE LIFETIME OF THE PHME TRIPLET EXCITATIONS. THEORETICAL CONSIDERATIONS WERE VERIFIED EXPTL. BY USING THE SELECTIVE COMPETITIVE INTERACTION OF THE PHME TRIPLET EXCITATIONS WITH 1, OCTENE.

FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--TRIPLET TRIPLET ANNIHILATION IN GLASSY SOLUTIONS OF TOLUENE AT
77DEGREESK -U-
AUTHOR-(04)-BATEKHA, I.G., ALFIMOV, M.V., GORDEYEV, V.I., SHEKK, YU.B.
COUNTRY OF INFO--USSR *A*
SOURCE--IZV. AKAD. NAUK SSSR, SER. FIZ. 1970, 34(3), 675-7
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--TOLUENE, LUMINESCENCE SPECTRUM, NAPHTHALENE, LIGHT EXCITATION,
PHOSPHORESCENCE, FLUORESCENCE, OCTENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY RELL/FRAME--2000/1624 STEP NO--UR/0048/70/034/003/0675/0677

CIRC ACCESSION NO--AP0125246
UNCLASSIFIED

2/2 032

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0140308

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTIVITIES (EXTINCTION COEFFS.) OF CATION RADICALS DERIVED FROM P-PHENYLENEDIAMINE, TETRAMETHYL-P-PHENYLENEDIAMINE, BENZIDINE, 4-HYDROXY-4-PRIME, AMINOBI-PHENYL, 4,4-DIPRIME, DIHYDROXYBI-PHENYL, AND 2-HYDROXYFLUORENE ARE TABULATED WITH BAND FREQUENCIES. THE SPECTRA OF CATION RADICALS WERE RUN AT 77 DEGREES K IN ETH. THEY WERE OBTAINED BY IRRADIATION OF THE SAMPLE WITH UV LIGHT (250-340 M μ), OR WITH VISIBLE LIGHT (400 M μ). THE CONCENTRATION OF THE CATION RADICALS WAS CALCULATED FROM THE DECREASE OF ABSORPTION CORRESPONDING TO THE PARENT COMPOUND. CATION RADICALS ARE THE ONLY PRODUCT AFTER TREATMENT WITH VISIBLE LIGHT; STABILIZED ELECTRONS ARE FORMED SIMULTANEOUSLY AFTER UV LIGHT TREATMENT. CATION RADICALS DERIVED FROM PHENOLS ARE CHARACTERIZED BY BANDS AT LOWER FREQUENCIES, WITH INTENSITIES LOWER THAN THOSE OF THE CORRESPONDING AMINES. LONGER IRRADIATION CAUSES DISAPPEARANCE OF BANDS ASSIGNED TO CATION RADICALS OF SOME AMINES (PHENOL SUB2, PH SUB2 NH, 4-AMINOBI-PHENYL). FACILITY: INST. KHIM. FIZ., MOSCOW, USSR.

UNCLASSIFIED

1/2 032 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--EXTINCTION COEFFICIENTS FOR AROMATIC CATIONS IN EHTANOL -U-
AUTHOR-(03)-SMIRNOV, V.A., ALFIMOV, M.V., ANDREYEV, O.M.
COUNTRY OF INFO--USSR
SOURCE--KHIM. VYS. ENERG. 1970, 4(3), 285-6
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--UV LIGHT, CATION, PHOTOEFFECT, PHENYLENE, DIAMINE, ANILINE,
ABSORPTION SPECTRUM

CONTROL MARKING--NO PESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605012/E04 STEP NO--UR/0456/70/004/003/0285/0286
CIRC ACCESSION NO--AP0140308
UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AT0127763
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXTRACTION OF THE ION BEAM FROM
THE JINR 2 METER ISOCHRONOUS CYCLOTRON BY A SYSTEM COMBINING AN
ELECTROSTATIC DEFLECTOR AND FOCUSING MAGNETIC CHANNEL IS DESCRIBED.
FACILITY: JOINT INST. FOR NUCLEAR RESEARCH, DUBNA USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--3000770
TITLE--EXPERIMENT ON THE BEAM EXTRACTION BY AN ELECTROSTATIC DEFLECTOR
FROM THE JINR 2 METRE ISOCHRONOUS CYCLOTRON -U-
AUTHOR-(05)-SHELAYEV, I.A., ALFEYEV, V.S., KUZLOV, S.I., NIKULAYEV, V.B.,
OGANESYAN, R.TS. A
COUNTRY OF INFO--USSR
SOURCE--LAB. OF NUCLEAR REACTIONS). 1970. 12P. DEP. CFSTI
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ION BEAM, CYCLOTRON, ELECTROSTATICS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0139 STEP NO--UR/0000/70/000/000/0012/0012
CIRC ACCESSION NO--AT0127763
UNCLASSIFIED

USSR

UDC: 621.379

ALEXEV, V. N.

"Cryogenic Electronics"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 17, No. 10, pp 1163-1175

Abstract: This introductory article to the new science of cryoelectronics defines it as electronics based on superconductivity and other specific phenomena in solids at cryogenic temperatures, with no analogy to the ordinary temperature intervals. Two separate low-temperature zones are specified: a zone of normal cooling, up to about 200° K, and a zone of intense cooling, ranging from 80° K to 80° K. The latter is subdivided into the region of helium temperatures, 4.2° K and below; hydrogen temperatures, 4.2 to 20° K; neon temperatures, 20-27° K; and nitrogen temperatures, below 80° K. In a short discussion of the science's history, the author names as the first cryogenic laboratory in the Soviet Union the Khar'kov laboratory headed by L. V. Shubnikov, and the Moscow Institute of Physical Problems, USSR Academy of Sciences, headed by P. L. Kapitza, established in the 1930-1934 period. The article is primarily devoted to the various directions taken by cryoelectronics -- or cryonics, as the author occasionally refers to it -- both at home and in foreign countries.

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USSR

UDC 519.1

ALFEROVA, Z. V. and YEZZHEVA, V. P.

"Use of the Theory of Graphs in Economic Calculations"

Moscow, *Primeneniye teorii grafov v ekonomicheskikh raschetakh* (cf English title above), "Statistika", 1971, 150 pp, il., 45 kopecks (from *Referativnyy Zhurnal -- Matematika*, No 6, June 71, Abstract No 6V398 K, by V. Kozyrev)

Translation: The use of graphs in examining control applications, analyzing survey materials, analyzing algorithms of problems and determination of the number of operations, and examining information and calculating object flow is described.

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USSR

ALFEROVA, N. S., et al., *Legirovaniye i svoystva zharoprochn. splavov*, 1971, pp 124-129

of residual stresses, which as a result prevents the tendency of the rolled pipe toward rupture.

The basic cause of pipe rupture during heat treatment is localization of the aging process under the conditions of decreased relaxation capacity of the alloy and the presence of residual stresses of the first type. Measures were developed for eliminating tendency of cold-deformed pipe made of aging alloys based on nickel toward rupture during their stress-relief heat treatment. Three illustrations, one table, and a 2-entry bibliography.

USSR

UDC 669.245:539.42:621.785.783

ALFEROVA, N. S., RIZOL', A. I., LAGOSHA, A. V.

"Role of Dispersion Hardening (Aging) in the Embrittlement of Alloys Based on Nickel When Producing Cold-Deformed Pipe"

V sb Legirovaniye i svoystva zharoprochn. splavov (Alloying and Properties of Heat-Resistant Alloys -- collection of works), Moscow, Nauka Press, 1971, pp 124-129 (from RZh-Metallurgiya, No 4, Apr 72, Abstract 41733)

Translation: Cold-deformed pipe made of a number of aging alloys based on nickel has a tendency to rupture during stress-relieving heat treatment. The basic factors promoting rupture are determined, and the causes of rupture are established. The decisive role of aging in the rupture of cold-deformed pipe during heat treatment is demonstrated. Rupture takes place in the intense aging temperature range. The role of the residual stresses in rupture is revealed. It is established that pipe made of EI8P7 and EI43/B alloys which after deformation have significant residual tensile stresses are subject to rupture. Such pipe includes all drawn pipe and pipe rolled with small reductions along the wall (8-10%) which is connected with a sharply expressed inhomogeneity of deformation. Increasing the degree of reduction during rolling insures more uniform deformation, more uniform aging, and the practical absence

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USSR

Alferova, N. S., Shevchenko, V. I., *Metallovedeniye i Termicheskaya Obrabotka Metallov*, No 9, 1973, pp 52-57.

which during annealing form centers for primary recrystallization. Increasing the degree of deformation still further increases the crushing of the grains, increasing the level of free energy and reducing the activation energy of the recrystallization process, correspondingly decreasing the recrystallization temperature. This dependence of the mechanism of recrystallization on the degree of cold deformation apparently holds true for other cold-deformed metals and alloys as well.

2/2

Titanium

USSR

UDC: 669.295.017:669.295:548.53

ALFEROVA, N. S., SHEVCHENKO, V. I., All-Union Scientific Research and Design Engineering Institute of the Pipe Industry

"Influence of Degree of Deformation on Recrystallization of Titanium Alloy"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 9, 1973, pp 52-57.

Abstract: This work studies the influence of the nature of cold-deformed structure of a metal on the mechanism of recrystallization, as well as the dependence of structure on the degree of cold deformation. Studies were performed on technically pure alpha titanium (VT1) and thermally unstable beta-titanium alloy VT15 (3% Al, 6.5% Mo, 10.5% Cr). The data produced confirmed that the degree of deformation influences not only the size of the recrystallized grains, but also the mechanism of recrystallization. The dependence of the recrystallization process on degree of deformation is apparently related to peculiarities of the accumulation of free energy upon deformation. With comparatively slight degrees of deformation, the surface energy of grain boundaries increase primarily due to local increase in dislocation density and disruption of boundary segregations. As the degree of deformation is increased above the critical level, the grains are broken into fragments and blocks.

2/2 021

UNCLASSIFIED

PROCESSING DATE 04/01/79

CIRC ACCESSION NO--AP0126643

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED THE VALUE OF FUNCTIONAL TOURNIQUET TEST FOR THE PREOPERATIVE REGISTRATION OF THE POSSIBILITY OF DEVELOPMENT IN PATIENTS OF THROMBOEMBOLIC COMPLICATIONS. SUCH A CONDITION OCCURS AS THE RESULT OF REDUCED ACTIVITY OF THE ANTICOAGULATION SYSTEM, THE COMPONENTS OF WHICH ARE THE FIBRINOLYTIC ACTIVITY AND HEPARIN. A TOTAL OF 342 PATIENTS WERE EXAMINED. OUT OF 68 PATIENTS CONSIDERED AS SUSCEPTIBLE TO THROMBOEMBOLIZATION ACCORDING TO DATA OF THE TOURNIQUET TEST THROMBOEMBOLIZATION OF THE PULMONARY ARTERY DEVELOPED IN 5 PATIENTS. SUCH COMPLICATIONS DID NOT DEVELOP IN 255 PATIENTS CONSIDERED AS PRONE TO THROMBOEMBOLIZATION. IN 19 CASES THE RESULTS OF THE TEST WERE CONSIDERED AS DOUBTFUL. THE TOURNIQUET TEST IS CONSIDERED AS VALUABLE FOR PREOPERATIVE DETERMINATION OF THE POSSIBILITY OF DEVELOPMENT OF THROMBOEMBOLIZATION IN PATIENTS.
FACILITY: KLINIKA FAKUL'TETSKOY KHIRURGII 2-GO LECHEBNOGO FAKUL'TETA I MOSKOVSKOGO MEDITSINSKOGO INSTITUTA. FACILITY: IM. I.M. SECHENOVA I LABORATORIYA SVERTYVANIYA KROVI MOSKOVSKOY GORODSKOY KLINICHESKOY BOL'NITSY NO. 61.

UNCLASSIFIED

~~APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900014-6~~

172 021 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PREOPERATIVE RECOGNITION OF THE POSSIBILITY OF DEVELOPMENT OF
THROMBOEMBOLIZATION IN PATIENTS -U-
AUTHOR--(02)-ALFEROVA, L.N., ALBERT, L.B.

COUNTRY OF INFO--USSR

SOURCE--KLINICHESKAYA MEDITSINA, 1970, VOL 48, NR 5, PP 139-142

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BLOOD VESSEL, CIRCULATION, FIBRINOLYSIS, HEPARIN, PHARMACEUTICAL MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/1003

STEP NO--UR/0497/10/04/001/0150-140

CIRC ACCESSION NO--AP0126643

UNCLASSIFIED

USSR

UDC: 621.372.3

ALPEROV, Zh. I., *Pis'ma i tekhnika poluprovodnikov*, No. 10, 1972,
pp 1379-1387.

600 lines/cm. The radiation receivers were generated by diodes or the FuU-22. The authors express their gratitude to N. V. Klepikova and V. P. Kuz'min for their assistance with the experiments, and V. N. Tschukovich for his interest in the work.

USSR

UDC 621.372.5

ALFEROV, Zh. I., AMOSOV, V. I., GARGUKOV, D. E., LEBEDEV, Ye. V.,
KONNIKOV, S. G., KOP'YEV, P. S., and TROLD, V. C.

"Investigation of the Dependence of the Luminescent Characteristics
of n and p Type $Ga_{1-x}Al_xAs$ and $Al_xGa_{1-x}As$ on the Defect Concentration"

Leningrad, Fizika i tekhnika poluprovodnikov, No. 10, 1972, p. 1867-1867

Abstract: The present article is the result of a study conducted by the first-named author in collaboration with the other authors, researchers regarding the nature of photoluminescence in solid solutions of $Ga_{1-x}Al_xAs$ and $Al_xGa_{1-x}As$. In the course of the study, results are given of experimental investigations of the character of the fringe luminescence radiation and the character of the intensity in the band as they depend on the composition of the solid solutions of both n and p types. The composition of the samples were in the form of epitaxial layers obtained by the liquid-phase gas transport method, their composition was determined by the microanalysis spectroscopy method and the defect concentration by the luminescence method. By a built-in field method, the luminescence spectra were recorded by a built-in field method, and the spectra of the luminescence were recorded by the RUD-2 microluminescence method.

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USSR

ALFEROV, Zh. I., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1300-1305

the structures, curves are plotted for the radiation recombination spectra for various current densities and for the radiation intensity as a function of the current. Appreciation is expressed to V. M. Tuchkevich for his interest in the work, and to G. A. Andreyev, N. A. Nikitina, and V. P. Dvortsova for their assistance in preparing the specimens and making the measurements.

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USSR

UDC: 621.382.3

ALFEROV, Zh. I., KOROL'KOV, V. I., NIKITIN, V. G., and YAKOVENKO, A. A., A. F. Ioffe Physico-Technical Institute, Leningrad

"Investigating Electroluminescent p-n-p-n Structures Using GaAs-Al_xGa_{1-x}As Heterojunctions"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1300-1305

Abstract: This is an experimental paper designed to determine the electrical, electroluminescent, and junction characteristics of four-layer structures using heterojunctions of the following types: p-Al_xGa_{1-x}As--n-Al_xGa_{1-x}As--p-GaAs--n-Al_xGa_{1-x}As, and n-Al_xGa_{1-x}As--p-Al_xGa_{1-x}As--n-GaAs--p-Al_xGa_{1-x}As, p-n-p-n structures in which one of the basic regions is of a narrow-zone material. The methods of growing such structures are discussed and a description of the preparation of the specimens is given together with a table of characteristics of the structure types. With regard to the volt-ampere characteristics, the authors discuss two types of mechanism for the increase in α with increasing current, and curves are plotted for the switching voltages and currents as functions of the temperature. For the electroluminescent characteristics of

1/2

USSR

UDC 621.385.012.98

SHCHELKUNOV, G.P., YAMPOL'SKIY, I.R., ALFEROV, V.N., MOISEYEV, K.A.

"Process Of Aging Of Power Klystrons With A Positive Polarity Of The Voltage At The Cathode"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronics Technology. Scientific-Technical Collection. Microwave Electronics.), 1970, No 1, pp 146-148 (from RZh--Elektronika i yeye primeneniye, No 8, August 1970, Abstract No 8A163)

Translation: A method is considered for aging of power klystrons (k10-12), making use of a limiting resistance (the procedure is suitable for devices which have either a thermionic cathode or a cold cathode). During such aging, cases were observed where breakdown was completed even in the course of a voltage pulse. Several devices were aged by the new process. An advance of the voltage to the required magnitude was performing during 0.5--1.5 hours and the number of breakdowns did not exceed 15. After shifting to the usual polarity, additional aging by the ordinary method is necessary, but the time for it shortens to 1--2 hours and the number of breakdowns amounts to 100-300 instead of the 600-800 during aging by the old method. After finishing off of the procedure, it is proposed to eliminate completely the additional aging. The quality of the devices (stability of operation, durability) passing the "without current" aging must be increased substantially, because such aging assures a reduction of failures of the electrodes by breakdowns. 2 ill. 2 ref.

G.B.

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USSR

UDO 621.385.623.4

ALFEROV, V.N., VLADIMIRTSEV, M.B., VISHNEVSKAYA, A.M., KOTOV, V.I., PROSIN, B.V.,
SHOHELKUNOV, G.P., YAMPOL'SKIY, I.R.

"Concerning Phase Stability Of Power Klystron"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology.
Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, pp 136-139
(from RZh--Elektronika i yeye primeneniye, No 2, February 1971, Abstract No 2A171)

Translation: Data are presented characteristic of the dependence of the phase of the output signal on the magnitude of the anode voltage, the exciting power, the focusing regime, the filament voltage, and the temperature of the cooling water. The apparatus for phase measurements is described. The experiments were conducted on Type KIU-12AM klystrons. 2 ref. Summary.

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[illegible]

From the discharge column, with pressure increasing, a cloud of particles of discharge zone appears in the direction of rotation, forming an electric arc. The larger part of the electrode is not in contact with the surface of the cathode at the same time the discharge velocity increases.

It may be concluded that when a low level of turbulence is encountered, the range of currents and pressures cannot be considered as very extensive, and the

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ALFEROV, V.I.

ELECTRICAL DISCHARGES

12 MARCH 1974

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EXPERIMENTAL STUDY OF THE CHARACTERISTICS OF DISCHARGE CURRENTS
BETWEEN COAXIAL CATHODES IN A MAGNETIC FIELD

The results of experimental investigations of electrical discharges in the anode gap between coaxial cathodes are presented in this article. The experimental results are presented in the form of graphs and tables. It is shown that the discharge current is a function of the magnetic field, the anode gap, the cathode diameter, and the cathode material. The results of the investigation of the discharge current are presented in the form of graphs and tables. It is shown that the discharge current is a function of the magnetic field, the anode gap, the cathode diameter, and the cathode material.

Electrical discharges, occurring in an anode gap in a transverse magnetic field, is used extensively at the present time in a number of aerodynamic systems and in various electrical machines and apparatus. However, the characteristics of such discharges are known only qualitatively. It is especially the velocity and voltage characteristics, which are of interest in the design of electrical machines and apparatus. The existing experimental results are limited by a narrow range of change of magnetic field and discharge current, especially at atmospheric pressure. Described in this article are studies of discharge characteristics at pressures from 100 mm and greater than atmospheric and with discharge stabilized by means of a magnetic field. The method of stabilization eliminates axial movement and deformation of the discharge channel, which reduces pulsations of current and voltage, allows one to study the rate of rotation, the transition of the discharge from induction in the radial direction prevents shorting of discharges.

Experimental Method. The experimental investigations were conducted on an apparatus representing a coaxial dissection with discharges initiated by a magnetic field. The apparatus is described in detail in [1]. The diameter of the external copper electrode is 80-90 mm and the diameter of the central electrode is 50-60 mm, which provides for variation of the electrode gap from 10 to 20 mm.

1 - USSR - FI

(Biblic)

USSR

UAC 614.75

ALFEROV, M. V., BAJEN, V. I., and LATOVA, Z. G.

"The Radiation Significance of Internal Irradiation Caused by Products of Plutonium Fission"

Moscow, Gigiyena i Sanitariya, No 5, 1979, pp 114-115

Abstract: The possibility of transferring research work on handling wastes of plutonium isotopes to operations entailing exposure to neutron fields was considered. The issue is the additional internal irradiation created by fission fragments during the fission of the uranium or plutonium isotopes. Calculations show that from the standpoint of radiation safety, no additional restrictions have to be placed on such personnel if the exposure to neutron radiation is at the maximum permissible level. If the neutron flux reaches values above this level, the conditions of radiation safety will be determined by the injurious effect of the neutron flux itself, the internal dose of alpha irradiation, and, if the neutron fields are sufficiently large, by the dose of fission fragments.

UDC 614.73

USSR

BAD'IN, V. I., SAYAPINA, R. Ya., ALFEROV, M. V., and NOVIKOV, V. I., Moscow

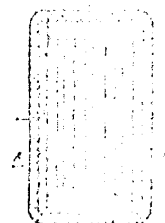
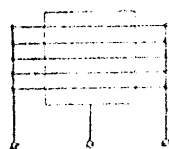
"The Problem of Evaluation of Radiation Hazards from Nonequilibrium Emissions"

Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 51-54

Abstract: A method is proposed for assessing the amount of radiation absorbed by lung tissue under nonequilibrium conditions of the daughter products of emission disintegration. The method greatly simplifies and shortens the monitoring process. It is based on the fact that the maximum permissible concentration of nonequilibrium emissions is equal to the ratio of the balanced maximum permissible concentration to the degree of equilibrium of the second decay product (Rab, Tnu, AcB). Under industrial conditions, the degree of equilibrium of the daughter products of emissions varies as a function of the number of times the area is ventilated.

USSR

ALPEROV, A. S. et al., USSR Author's Certificate No. 811,411



2/10

USSR

1997 6.1.202.4

[illegible]

"An Electrical Review"

Moscow, September, in the journal, *Priglasenie k razmyshleniyam*, No. 24, Aug 71, Author's Contribution to Science, Moscow, 1971, p. 68, published 2 Aug 71, p. 104.

Translation: This Author's Certificate discloses information in a form which contains a printer and a capacitor. The device is in the form of a stack of sections of aluminum and insulation, with a current-carrying layer, and is equipped with a circuit. The following features of the patent, in order to remove the invention from the hands of the inventor, improve the form of the invention, and instances of the capacitor, improve the form of the invention, of the design and reduce cost, the ends of each section of the capacitor are connected to all other ends, which may be used in the invention.

USSR

UDC: 621.384.64:539.122

ALEYSHVILI, D. I., et al, Atomnaya energiya, vol. 33, No 1, July 1972, pp 593-594

circuit with the high-frequency system operating. A description of the target is given. The radiation obtained from the target's braking the electron stream was picked up by recording equipment. A diagram of the apparatus is given, along with curves of the lifetime of the accumulated electron beam as a function of the target position and for the intensity of the braked radiation as a function of time. It is found that by increasing the number of accumulated particles to 10^{11} , the photon output can be raised to 10^9 - 10^{10} per cycle.

Nuclear Physics

UDC: 621.384.64:539.122

USSR

ALEYSHVILI, D. I., GRISHAYEV, I. Ya., MOCHESHNIZOV, N. I., and
TOLSTOY, A. Ye.

"Reduction of Idle Time in the Operation of a Linear Accelerator"

Moscow, Atomnaya Energiya, vol 33, No 1, July 1972, pp 593-594

Abstract: In this paper it is shown that, by using an accumulator with no essential structural changes, the pulsed electron beam of a linear electron accelerator containing an accumulator transforms to a flow of gamma quanta with an intensity and duration that may vary within broad limits. The experimentation which led to this conclusion was conducted with the accumulator of the Physicotechnical Institute of the Ukrainian Academy of Sciences, using the first five sections of a linear accelerator with an energy of 300 Mev acting as injector. In the accelerator the electron energy was 70 Mev, the pulse current was 50 ma with a duration of 1.2 μ s, and the injection frequency 1-50 Hz. The accelerator beam was formed by the rotatory focusing system of the accumulator, introduced into the ring, and then captured by the pulse field of the inflector before its accumulation in the magnetic

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USSR

UDC 541.13:542.91:546.28'131:547.241

KARTSEV, G. N., ALEYNPKOV, V. I., SMIRNOVA, N. V., GLUBCKOV, YU. M., and SHCHERBAKOVA, E. S., Institute of Metallurgy imeni A. A. Baykova, Academy of Sciences USSR and Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosova

"Dielectric Study of the Interaction of Silicon, Germanium, and Tin Tetrachlorides With n-Tributylorthophosphate"

Moscow, Seriya Khimicheskaya, 9, 1973, pp 1972-1975

Abstract: The title study was carried out in order to establish the thermodynamic properties and structures formed during the reaction of these tetrachlorides with tributylorthophosphate (TBP) by a dielectrometric titration. No significant reaction was observed in the SiCl_4 -TBP and GeCl_4 -TBP systems. In the SnCl_4 -TBP, stepwise molecular complexes were formed having ratios of reactants of 1:1 and 1:2. Equilibrium concentrations were calculated by computer for the complex-forming reactions between SnCl_4 and TBP. From these equilibrium constants were determined. The dipole moments were measured for the complexes and related to the specific conformation of the complex.

3/3 020 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0119520
ABSTRACT/EXTRACT--ON LONG TERM X IRRADN., CRYSTALLITES APPEAR IN THESE
GLASSES. FACILITY: VORONEZH. POLITEKH. INST., VORONEZH, USSR.

UNCLASSIFIED

2/3 020

UNCLASSIFIED

PROCESSING DATE--130CT70

CIRC ACCESSION NO--AP0119525

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ZN SUBX CD SUB1-SUBX AS SUB2 SOLID SOLNS. ARE MATERIALS, THE ELEC. PARAMETERS OF WHICH CAN EASILY BE CONTROLLED BY CHANGES IN THEIR COMPN. SINGLE CRYSTALS OF ZN SUBX CD SUB1-SUBX AS SUB2 WERE GROWN, AND THEIR ELEC. PROPERTIES WERE DETD. WHEN THESE SOLID SOLNS. ARE RAPIDLY COOLED IN WATER, THEY CAN BE PREPD. IN THE VITREOUS STATE. WHEN ZN SUBX CD SUB1-SUBX AS SUB2 GLASSES ARE HEATED AT 400-500 DEGREES, CRYSTN. TAKES PLACE WITH A CONSIDERABLE EVOLUTION OF HEAT. MEASUREMENTS OF RESISTIVITY AT 80-3000 DEGREES K. SHOWED THAT AT 50-80 MOL. PERCENT CDAS SUB2 IN ZN SUBX CD SUB1-SUBX AS SUB2, NO SECTIONS WITH IMPURITY COND. ARE OBSD. ADDING SI, GE, SE, P, TE, AND MO TO VITREOUS ZN SUBX CD SUB1-SUBX AS SUB2 MATERIALS DOES NOT CHANGE THE ACTIVATION ENERGY OR THE ELEC. COND. OF THESE GLASSES. MOST OF THE SAMPLES INVESTIGATED HAD PHOTOCOND., THE VALUE OF WHICH DEPENDED NOT ONLY ON THE COMPN. AND THE IMPURITY CONTENT, BUT ALSO ON THE COOLING RATE OF THE MELT. PHOTOCOND. WAS NOT THE SAME IN ALL SECTIONS OF A GIVEN SAMPLE. DIFFERENTIAL THERMAL EMF. AND THERMAL COND. FOR ALL COMPN. ARE NOT LARGE, AND VARY ONLY INSIGNIFICANTLY WITH THE TEMP. THE FREE CARRIER CONCN. AS DETD. FROM HALL-CONST. MEASUREMENTS IS OF THE ORDER OF 10^{10} - 10^{12} CM⁻³. IN GLASSES CLOSE IN COMPN. TO CDAS SUB2, SECTIONS OF IMPURITY COND. WERE OBSD. WITH INCREASED TEMP., THERE TOOK PLACE AN INVERSION OF THE DIFFERENTIAL THERMAL EMF, AND THE HALL CONST. AMORPHOUS ZN SUBX CD SUB1-SUBX AS SUB2 HAS SEMICONDUCTOR PROPERTIES, AS DO THE ZNAS SUB2, CDAS SUB2, AND ZN SUBX CD SUB1-SUBX AS SUB2 MELTS.

UNCLASSIFIED

1/3 020 UNCLASSIFIED PROCESSING DATE--2306170
TITLE--SEMICONDUCTOR GLASSES IN THE ZNAS SUB2-COAS SUB2 SYSTEM -U-
AUTHOR--(02)-ZYURINA, T.A., ALEYNIKOVA, K.B.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(2), 266-70
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--SEMICONDUCTOR GLASS, ZINC, ARSENIC, CADMIUM, GLASS COMPOSITION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0612 STEP NO--UR/0363/70/005/002/0266/0270
CIRC ACCESSION NO--AP0119525
UNCLASSIFIED

ALEYNIKOVA, K.B.

SPRS 992068

6-73

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11-15. STUDY OF THE CRYSTALLIZATION CONDITIONS OF ZINC DIMETHYLSELENIDE

[Article by V. I. Sidorov, K. B. Aleynikova, V. F. Sidorov, Ye. A. Ugar, Voronezh State University; Novosibirsk, III. Symposium on Problems of Crystallography, 1971, p. 161]

A study was made of the conditions of crystallization of zinc dimethylsele-
nide in a broad temperature range (400-1000)°C under the pressure of a volatile com-
ponent—methylselenide—(0.1-15) atmospheres. Under the selected optimal condi-
tions, single crystals of the black version of ZnP₂ to 30 mm in length and
(0-15) mm in diameter were obtained by crystallization from the melt. In the
Kis phase, monoclinic plates of the tetragonal (red) version of ZnP₂
more than 100 mm² in area and (0.3-2) mm thick and also individual single
crystals of the black version of ZnP₂ were obtained.

X-ray structural and chemical analyses demonstrated that the single crys-
tals of ZnP₂ of the black version obtained by crystallization from a melt (1)
and in the Kis phase (2) differ somewhat with respect to composition and
structure. The crystals of the first type belong to the monoclinic symmetry
described earlier. The crystals (2) have rhombic symmetry which occurs as a
result of insignificant rearrangement of the monoclinic structure caused by
variation of the chemical composition.

2/2 030

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137605

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE YIELD OF N (FAST, SLOW, AND MEDIUM ENERGY) BEYOND THE DIYAI SYNCHROCYCLOTRON (600 MEV) SHIELDING WAS MEASURED TO DET. SPECTRAL ANGULAR DISTRIBUTION OF THE RADIATION. THE SYNCHROCYCLOTRON IS LOCATED WITHIN A CONCRETE SHIELDING MEASURING 52 TIMES 38 TIMES 32 M. THE THICKNESS OF THE CONCRETE WALLS IS 2 M. ALL WALLS, WITH THE EXCEPTION OF ONE, WERE ALSO PROTECTED BY A LAYER OF EARTH (10 M THICK). THE MOST INTENSIVE RADIATION LOSS, COMPRISING 50-60PERCENT OF THE TOTAL LOSS, OCCURS THROUGH THE WINDOW OPENINGS.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--RADIATION YIELD BEYOND OIYAI SYNCHROCYCLOTRON SHIELDING -U-
AUTHOR-(04)-ALEYNIKOV, V.YE., KIMEL, L.R., KOMOCHKOV, M.M., SIDORIN, V.P.
COUNTRY OF INFO--USSR
SOURCE--AT. ENERG. 1970, 28(5), 438-9
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, NUCLEAR SCIENCE AND TECHNOLOGY
TOPIC TAGS--SYNCHROCYCLOTRON, RADIATION SHIELDING, CONCRETE, ANGULAR
DISTRIBUTION, SPECTRAL DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/0516 STEP NO--UR/0089/70/028/005/0438/0439
CIRC ACCESSION NO--AP0137605
UNCLASSIFIED

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1. Introduction

2. Background

3. Discussion

4. Conclusion

2/2 043

UNCLASSIFIED

PROCESSING DATE--09/01/70

CIRC ACCESSION NO--AP0055152

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXCITATION FUNCTIONS TO SOME LINES OF HG ION IN A HG HE MIXT. WERE STUDIED FOR DETG. THE NATURE OF 2ND ORDER IMPACTS. EXPTS. WERE CONDUCTED WITH HG VAPOR AT 20 TIMES 10 PRIME NEGATIVE3 TORR. SECOND ORDER IMPACTS WHEN HE WAS ADDED TO THE ELECTRON GUN WERE DETECTED BY THE CHANGE IN THE RELATIVE INTENSITIES AND PLASMA OF THE EXCITATION FUNCTION OF THE LINES OF HG PRIME POSITIVE. THE RELATIVE INTENSITY OF HG PRIME POSITIVE, BELONGING TO CASCADES 7 PRIME2 P SUBTHREE HALVES MINUS 7 PRIME2 S SUBONE HALF MINUS 6 PRIME2 P SUBTHREE HALVES MINUS 6S PRIME2 PRIME2 D SUBFIVE HALVES, INCREASES LINEARLY WITH THE HE PRESSURE, AND SHOWS 2 FOLD INCREASE AT 0.1-0.2 TORR. THE INCREASE IN THE INTENSITY OF THESE HG DISCHARGE LINES IS FELT EVEN ON THE ADDN. OF A SMALL QUANTITY OF HE TO HG VAPOR (APPROXIMATELY EQUAL TO 5 TIMES 10 PRIME NEGATIVE4 IRR). ON ADDING NE OR AR (10 PRIME NEGATIVE3 MINUS 10 PRIME NEGATIVE2 TORR) TO THE ELECTRON GUN, NO APPRECIABLE CHANGE IN THE RELATIVE INTENSITIES OF HG AND HG PRIME POSITIVE LINES WAS FOUND. FURTHERMORE IN A MIXT. OF THESE GASES, A PROCESS OF RECHARGING OF HE IONS WITH THERMAL ENERGY OF HG ATOMS LEADING TO THE FORMATION OF EXCITED HG IONS CONTINUES.

UNCLASSIFIED

1/2 043 UNCLASSIFIED PROCESSING DATE--000170
TITLE--USE OF AN ELECTRON GUN FOR DETERMINING THE NATURE OF SECOND ORDER
IMPACTS IN A MERCURY HELIUM MIXTURE -0-
AUTHOR--ALLYNIKOV, V.S. A
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(1), 31-4
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTRON GUN, ELECTRON BEAM EXCITATION, EMISSION SPECTRUM,
HELIUM, MERCURY, ELECTRON ENERGY LEVEL, PRESSURE EFFECT, SECONDARY
EMISSION, ION BOMBARDMENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/0367 STEP NO--UR/0051770/022/0017003170034
CIRC ACCESSION NO--AP0055152
UNCLASSIFIED

USSR

UDC: 621.373:530.145.6

ALEYNIKOV, V. S., KARPETSKIY, V. V.

"Analysis of the Change in Concentration of the Components of a Gas Mixture in an Electrical Discharge in Carbon Dioxide"

Elektron. tekhnika. Nauch.-tekhn. sb. Elektron. SVCh (Electronic Technology. Scientific and Technical Collection. SHF Electronics), 1971, vyp. 3, pp 88-96 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6Di88)

Translation: A simple theory is outlined for the change in concentration of a molecular gas in an electric discharge, which can be used to evaluate the effect which a number of parameters of the discharge tube have on the rate of change in the composition of the working mixture (the lifetime of the laser). As an example, the authors examine the change in concentration of carbon dioxide in the positive column of a glow discharge used in a laser. The effect which the additional volume, tube diameter and addition of oxygen to the gas mixture have on the lifetime of the laser is estimated.

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- 111 -

2/2 CC9* UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0135761
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE SIMULTANEOUS USE OF STARCH AND
POLYOXYETHYLENATED COMPS. LEADS TO FORMATION OF A COMPLEX ABSORPTION
STRUCTURE ON THE BORDER OF PHASE SEPH. AND AFFECTS THE RATE OF FLOTATION
OF APATITE, CALCITE, AND DOLOMITE WITH CARBOXYLIC ACIDS. THESE COMPLEX
PROPERTIES CAN BE USED DURING THE SELECTIVE FLOTATION OF APATITE.
FACILITY: GORN. MET. INST., APATITY, USSR.

UNCLASSIFIED

1/2 009 UNCLASSIFIED PROCESSING DATE--11 DEC 70
TITLE--SELECTIVE FLOTATION OF PHOSPHATE CARBONATE ORES -U-
AUTHOR--(02)-ALEYNIKOV, N.A., AFANASYEVA, N.V.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. PROBL. RAZRAB. POLEZ. ISKOP. 1970, (2), 91-5
DATE PUBLISHED-----70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, MATERIALS
TOPIC TAGS--CARBOXYLIC ACID, ABSORPTION, PHOSPHATE, CARBONATE, FLOTATION
REAGENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0064 STEP NO--UR/0415/70/000/002/0091/0095
CIRC ACCESSION NO--AP0135761
UNCLASSIFIED

USSR

UDC 621.317.41

ALEYNIKOV, I. N.

"Theory of Measuring the Complex Magnetic Permeability of Ferrites in a Non-uniform Resonator"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Engineering. Scientific and Technical Collection. Ferrite Engineering), 1970, vyp. 4 (26), pp 63-66 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A299)

Translation: The calculation formulas are derived for determining the magnetic permeability $\mu = \mu' - i\mu''$ of ferrites by measuring the frequency drift and the variation in Q-factor of the ribbon or coaxial resonator with step nonuniformity of the wave impedance when placing a sample in it.

2/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
 CIRC ACCESSION NO--AP0119519
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY USING THE DIRECT ELECTRON MICROSCOPIC METHOD THE EFFECT OF OXIDE CATALYSTS ON THE EARLY CRYSTN. STAGES OF MG ALUMINOSILICATE AND LI ALUMINOSILICATE GLASSES WAS INVESTIGATED. TiO SUB2 WAS USED AS THE CATALYST, AND GLASS SAMPLES WITH AND WITHOUT ITS ADDN. WERE STUDIED. THE FOLLOWING COMPS. (IN WT. PARTS) WERE INVESTIGATED: 17.4MGO.24.3 AL SUB2 O SUB3 .45.3SiO SUB2 .13.1TiO SUB2; 17.4MGO.24.3AL SUB2 O SUB3 .45.2SiO SUB2, 11LI SUB2 0.17 AL SUB2 O SUB3 .72SiO SUB2 .10TiO SUB2; 11LI SUB2 0.17AL SUB2 O SUB3 .72SiO SUB2. THE GLASSES WERE MELTED FROM CHEM. PURE REAGENTS IN THE AMTS. OF 150-300 G IN PT CRUCIBLES WITH SUBSEQUENT QUENCHING. ULTRA THIN SECTIONS MEASURING 300-500 ANGSTROM IN THICKNESS WERE USED FOR THE ELECTRON MICROSCOPIC INVESTIGATIONS. UPON HEAT TREATMENT OF MG ALUMINOSILICATE GLASSES, ANDOSVITIC SOLID SOLNS. FORM 1ST, AND IN LI ALUMINOSILICATE GLASSES THERE FORMS AL SUB2 TiO SUB5, WHICH DECOMP. AT ELEVATED TEMPS., AFTER WHICH A GENERAL CRYSTN. OF THE SECTIONS BEGINS. IT IS ASSUMED THAT THE CATALYZING ACTION OF THE OXIDE CATALYSTS DURING BULK CRYSTN. OF THE GLASSES CONSISTS NOT IN THAT THEY OR THEIR COMPOS. FORM PARTICLES WHICH SERVE AS THE SEEDS FOR THE GROWTH OF THE FUNDAMENTAL PHASE OF THE GLASS CRYST. MATERIAL, BUT IN THAT DURING HEAT TREATMENT THEY ENHANCE THE DECOMPN., I.E. 2 PHASE SEPN. OF THE STARTING GLASS, AND FORM UNSTABLE COMPOS. THE LATTER, BY DECOMPS AT ELEVATED TEMPS., LIBERATE THE REACTION CAPABLE OXIDES, WHICH INTERACT WITH THE MATRIX OF THE SECTIONS AND CAUSE THEIR GENERAL CRYSTN. FACILITY: INST. KHIM. KHIM. TEKHNOL., VILNIUS, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EFFECT OF CATALYSTS ON THE INITIAL STAGES OF THE CRYSTALLIZATION OF
SOME GLASSES -U-
AUTHOR--ALEYNKOV, F.K. *A*
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG, MATER. 1970, 6(3), 523-31
DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS
TOPIC TAGS--GLASS CRYSTALLIZATION, ELECTRON MICROSCOPY, ALUMINOSILICATE
GLASS, MAGNESIUM OXIDE, LITHIUM GLASS, TITANIUM OXIDE, CATALYST

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/0601 STEP NO--UR/0363/70/006/003/0528/0531
CIRC ACCESSION NO--AP0119519
UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--20NOV70
 CIRC ACCESSION NO--AP0132360
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INFLUENCE OF METALLIC CATALYSIS ON THE EARLY STAGES OF THE CRYSTN. OF GLASS OF THE COMPN. (IN WT. PERCENT) OF 34.2NA SUB2 0.65.8SIO SUB2 AND 14.2LI SUB2 0.19AL SUB2 0 SUB3.67SIC SUB2 WAS STUDIED BY DIRECT ELECTRON MICROSCOPIC INVESTIGATION. AT A DEFINITE CRIT. MAGNITUDE AND CORRESPONDING TO THE FACES CHARACTERISTIC FOR THE CRYSTAL, THE METAL PARTICLES SERVE AS SEEDS FOR THE SILICATE PHASE. METALLIC CATALYSTS INTRODUCED INTO THE GLASS IN THE FORM OF SALTS IN THE AMT. OF 0.01 WT. PERCENT DO NOT FORM PARTICLES WITH SUCH DIMENSIONS ON WHICH THE FUNDAMENTAL CRYST. PHASE COULD GROW; THEY ONLY ENHANCE THE DECCMPN., I.E., THE LIQUATION OF THE ORIGINAL GLASS AND THE FORMATION OF UNSTABLE COMPOS. AND SOLID SOLNS., DURING THE DECCMPN. OF WHICH THERE PROCEEDS ALSO GENERAL CRYSTN. THE GLASSES STUDIED WERE MELTED AT 1400-1500DEGREESC, WHEREUPON THEY WERE QUENCHED AND PCURED ONTO A METALLIC PLATE. GOLD WAS INTRODUCED INTO THE GLASSES IN THE FORM OF HAUCI SUB4 AND PT IN THE FORM OF H SUB2 PTCL SUB6. ULTRATHIN SECTIONS 300-500 ANGSTROM IN THICKNESS, PREPD. WITH THE AID OF A LKB4800 ULTRAMICROTOME WITH THE USE OF A DIAMOND KNIFE, WERE USED FOR THE DIRECT ELECTRON MICROSCOPIC INVESTIGATION. FACILITY: INST. KHIF. KHIF. TEKFNCL., VILNIUS, USSR.

UNCLASSIFIED

172 023 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--ELECTRON MICROSCOPIC STUDY OF THE INFLUENCE OF CATALYSTS ON THE
INITIAL STAGES OF GLASS CRYSTALLIZATION -U-
AUTHOR--(02)-ALEINIKOV, F.K., NICKIENE, M.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(4), 785-9
DATE PUBLISHED-----70
SUBJECT ARLAS--MATERIALS, CHEMISTRY
TOPIC TAGS--ELECTRON MICROSCOPY, METAL CATALYST, GLASS CRYSTALLIZATION,
GLASS COMPOSITION, SILICATE, GOLD COMPOUND, PLATINUM COMPOUND, MELTING
POINT, MICROTOME, DIAMOND/ULKB4800 ULTRAMICROTOME
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0065 STEP NO--UR/0363/70/006/004/0185/0789
CIRC ACCESSION NO--AP0132360
UNCLASSIFIED

A154/A128.

AUTHORS: Shturman, V. V., Bessmertnyy, K. I., Alayeva, Y.
Fedorova, Ye. F.

1. $\text{Ni}(\text{H}_2\text{O})_6^{2+}$ is a weak acid. In a 0.10 M solution, $\text{Ni}(\text{H}_2\text{O})_6^{2+}$ is 4.3% ionized.

PERIODICAL: Quarterly 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2

1948]. These authors reported that the alkyl benzoates of the type $\text{C}_n\text{H}_{2n+1}\text{COOC}_6\text{H}_5$ for $n = 1$ to 10 are suitable for use at temperatures up to 150°C . by the process of thickening oils with fatty-acid soaps. It was also found that, in order to increase the heat resistance of the lubricating oils, acids from synthesized fatty acids which are separated from a wide range of acids contain 15 to 20 carbon atoms are used as a thickening agent.

Card 1/1

USSR

UDC 541.127:546.226'215:546.185'215

IJENOK-FURMAKINA, V. A., and ALEYEVA, G. P., Institute of Physical Chemistry
Acad. Sc. USSR, Imeri L. V. Pisarzhevskiy, Kiev

"Investigation of the Mechanism of Decomposition of Peroxymonosulfate and
Peroxymonophosphate in Aqueous Alkali Solution"

Moscow, Zhurnal Fizicheskoy Khimii, Vol 46, No 11, Nov 72, pp 2788-2791

Abstract: The decomposition mechanism of peroxymonocompounds in alkaline media was studied. The decomposition of peroxymonosulfate is first order with respect to the base and to peroxymonosulfate. The rate constants were determined:

$k = 6.9 \cdot 10^8 \exp(-17300/RT) \text{ l} \cdot \text{mole}^{-1} \cdot \text{sec}^{-1}$, and $\Delta S^\ddagger = -18$. It was established (0^{18}) that during the decomposition of potassium peroxymonosulfate and peroxymonophosphate, oxygen is liberated both from the peroxide and from the water with statistical distribution of isotopic modalities. The data obtained are explained by a transfer of one electron from the hydroxyl ion to the peroxy anion and disproportionation of the hydroxyl radical formed. Assured participation of the radicals is supported by the observed influence of isopropanol on the formation of oxygen.

1/1

ALEYEV

Biology of the Northern
1

Article by Dr. A. A. Alekseyev, Institute of the Biology of the Northern Zone,
Khabarovsk Academy of Sciences, Khabarovsk, USSR. (Received 1967)
Zentralblatt, 1968, Vol. 61, No. 1, 1968, 19 pages.

The resistance coefficient values of the form for the active of
active animals -- especially, flying reptiles, birds and mammals --
to active means of hunting (predators). The value of the form for the
number from 0.003 to 0.006. The ecology of the active animals is
relatively changed in a number of species connected by the formation
of the active form. At the beginning of the active form there are two values
of the active form: the slow-swimming form, and at the end of the active
form the values of the active form are small, are concentrated in the last active
form. For the majority of species including all active forms the
low values of the active form are comparatively and characteristically low -- from
0.003 to 0.006. It was shown that the value of the active form can serve as a
criterion of adaptability of the active animals to active irreversible
movement.

One of the most important adaptive aspects of animals to the active
form of life -- is a reduction in the hydrodynamic resistance encountered
by the animal while swimming, in as much as this determines the possibility
of conserving energy expended in movement and correspondingly -- the
possibility of increasing the speed of movement. The adaptation of active
animals, intended for a reduction of hydrodynamic resistance are varied;
the most common for the purpose is the formation of a well streamlined
active form of body which is characteristic to a certain degree of all
reptiles. The hydrodynamic qualities of the body form in all swimming animals
can be characterized objectively by a quantitative aspect of the resistance
coefficient of the form C_{xT} , which is found by the generally known method
(Prandtl, 1951 and others). A comparative evaluation is given below of the
hydrodynamic qualities of the body form of different species, which is of
interest from both the aspect of general zoology as well as in the
scope of bionic problems.

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Biology

TITLE: INDONESIAN
 PERSON: GOUREL, SUTARIGLOHARAYA
 IN: SEINA JAWARA 6, 1973, No. 3 (1972),
 P. 1, COL. 1-2

ABSTRACT: THE INFORMATION AND ANALYSIS OF
SOURCES INSTITUTE OF APPLIED PHYSICS HAS
DEVELOPED AN ELECTROPHORETIC APPARATUS
WHICH DOES NOT REQUIRE THE ATTACHMENT
OF ELECTRODES TO THE SUBJECT. CALLED THE
"LIVAC," THE APPARATUS PRODUCES MYOELISIS
FOR MEDICAL PURPOSES THROUGH THE EFFECT
OF FOUR FACTORS -- TEMPERATURE, SOUND,
VISUAL AND ULTRA-HIGH-FREQUENCY RAY -- ON THE
MUSCULATURE.

1. TITLE: RESEARCH ON RADIATION DETECTORS
(GENERAL)
2. PRINCIPAL SOURCE: PAVLYA VOSTOKA, JANUARY
3. 1973, VOL. 2 (1974), P. 3, COL. 2-3
4. ASSOCIATING AGENCY: ASSOCIATION OF THE LABORATORY
OF REGISTERED SINGERS OF THE
PHYSICAL-TECHNICAL INSTITUTE OF THE UZBEK
SSR ACADEMY OF SCIENCES AND STUDYING
NUCLEAR RADIATION DETECTORS.
5. ABSTRACT: A PHOTOGRAPH SHOWS DETECTOR RESEARCH
ASSISTANT MAHMOUDAH RIKHOMOV SITTING
INSTRUMENTS IN THE LABORATORY.

RESEARCH ASSISTANT - FACTOR OF BIOLOGICAL
RESEARCH - JEFFERSON RESEARCH
ASSOCIATE - JEFFERSON RESEARCH
RESEARCH ASSISTANT - JEFFERSON RESEARCH

SECTION OF HYDRODYNAMICS OF FISH
BIOLOGY SOCIETY. JOINTLY TRANSMITED. JANUARY
1903. No. 2. (1903), P. 4, COL. 1-5
4. STAFF OF THE HYDRODYNAMICS OF THE MOVEMENT
OF FISHES, WITH SUCH AS KNOWLEDGE
AND INTEREST IS REQUIRED. THE DEPARTMENT
OF THE DEPARTMENT OF THE INSTITUTE OF THE
HYDRODYNAMICS OF THE MOVEMENT OF FISHES
AND THE DEPARTMENT OF THE MOVEMENT OF FISHES
IS ESTABLISHED IN SEVERAL YEARS.
IT IS ESTABLISHED THAT THE "SCHOOL" OF
HYDRODYNAMICS OF THE MOVEMENT OF FISHES
WILL BE HELD IN THE HYDRODYNAMIC
DEPARTMENT WITH THE ABOVE THE BODY OF
THE FISH.

1. A statement that the study of the
behaviors of animals offers much
valuable information for both humans and
aviation engineers.

TITLE: A. S. POVOLOV (CONTINUED)
 REFERENCE: "MOSKOVSKAYA PRAVDA, DEC.
 23, 1972, NO. 248 (16692), P. 4, COL. 7
 ASSIGNED: ALEXANDER S. POVITSKIY, A SENIOR
 CHIEF DESIGNER OF AN AVIATION PLANT AND A
 (CONTINUED ON NEXT PAGE)

USSR

UDC 669.046.5

GRIGORYAN, V. A., MINAYEV, Yu. A., KARSHIN, V. P., and ALEYEV, R. A.

"Surface Phenomena in the Processes of Interphase Transfer in Metallurgical Systems"

Moscow, V sb. "Sovremennyye problemy kachestva stali" (MISiS), (Collection of Works. Modern Problems of Steel Quality) (Moscow Institute of Steel and Alloys). Izd-vo "Metallurgiya," No 61, 1970, pp 46-48

Translation of Abstract: The role of an interphase boundary in the graphite single crystal solution in liquid iron, and in the sulfur transfer from metal into slag, is considered. 3 figures.

2/2 026

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0129071

ABSTRACT/EXTRACT--(U) GP--O- ABSTRACT. RESULTS ARE PRESENTED OF THE TREATMENT OF 46 PATIENTS. THE COMPLEX TREATMENT PLAN ALSO INCLUDED TREATMENT BY MEANS OF THE "MYOTON" DEVICE. THE PATIENTS INCLUDED 26 WITH INFECTIOUS DISEASES OF THE SPINAL CORD AND 20 WITH POSTTRAUMATIC SPINAL CORD DISEASE. THE OFFERED TREATMENT PROVED PROMISING, PARTICULARLY IN PATIENTS WITH INFECTIOUS MYELITIS. THE MECHANISM OF IMPROVEMENT MAY BE EXPLAINED BY REDUCTION OF PARABIOLOGIC PHENOMENA AS A RESULT OF THE CREATION OF A MODEL BIOELECTRICALLY CONTROLLED. FACILITY: KIEVSKOGO INSTITUTA USOVERSHENSTVOVANIYA VRACHEY.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--COMPLEX TREATMENT OF PATIENTS WITH DISEASES OF THE SPINAL CORD BY
MEANS OF THE MYOTON DEVICE -U-
AUTHOR--ALEYEV, L.S.
COUNTRY OF INFO--USSR A
SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 145-148
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--SPINAL CORD, INFECTIOUS DISEASE, MEDICAL APPARATUS/(U)MYOTON
MEDICAL APPARATUS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3C02/1701 STEP NO--UR/0475/70/000/004/0145/0148
CIRC ACCESSION NO--AP0129071
UNCLASSIFIED

Therapy

USSR

UDC 616.832-08-035-7

ALEYEV, L. S., Candidate of Medical Sciences, Institute of Cybernetics, Academy of Sciences U.S.S.R., and Chair of Nervous Diseases, Kiev Institute of Advanced Training of Physicians

"Comprehensive Treatment of Patients With Diseases of the Spinal Cord Including Use of the Device 'Mioton'"

Kiev, Vrachebnoye Delo, No 4, 1970, pp 145-148

Abstract: Included in the treatment of 46 patients suffering from the sequelae of traumatic injury to the spinal cord or of infectious myelitis was the use of multichannel bioelectric control provided by a device developed by the author in 1965 called "Mioton" (description published elsewhere). Nineteen of the patients showed significant improvement, 10 slight improvement, and 17 no improvement. The duration of the disease and age of the patients had the greatest bearing on the results. The signs of improvement - restoration of lost movements, improvement of trophic functions, increased muscular strength, activity of pelvic organs - were most pronounced in those suffering from the disease less than two years. And in general the younger the patient, the better the response.

1/1

Therapy

USSR

UDC 616.833.17-002-035.84

ALEYEV, L. S., Institute of Cybernetics, Ukrainian Academy of Sciences, and
Institute for the Advanced Training of Physicians, Kiev

"Treatment of Bell's Palsy Using the Method of Programmed Multichannel Bio-
electrical Control"

Moscow, Zhurnal Nevropatologii i Psikiatrii, No 3, 1973, pp 345-350

Abstract: Of 148 patients suffering from Bell's palsy caused by an infection or trauma and unsuccessfully treated with drugs or physical agents, 83% completely recovered after 15 to 30 sessions in a Myoton, an electronic device based on multichannel programmed bioelectric control developed by the Institute of Cybernetics, Ukrainian Academy of Sciences. The biopotentials arising in a donor while performing a motor act are transmitted to a patient through electrodes, biopotential amplifier, integrator, pulse generator, modulator, comparator, and output amplifier. The method of multichannel bioelectrical stimulation makes it possible to act simultaneously on several different but functionally interrelated muscles, thereby reducing the likelihood of tissue adaptation and facilitating the entry of proprioceptive impulses from the periphery at varying frequencies as determined by the program.

1/1

USSR

UDC 632.95

ALEYEV, B. G.

"The Application of Herbicides in the Cotton-Growing Zone of Uzbekistan"

"Fan," Tashkent, 1971. (Translation from Referativnyy Zhurnal Khimiya, No 8, Moscow, 1972, No 8 N661)

Translation: Data are presented on the testing and application of herbicides in the sowing of agricultural crops under the conditions of the cotton zone of Uzbekistan, and on the argotechnical measures taken in the struggle with weeds. The effect of herbicides on the various physiological-biochemical processes of cotton, its technical effectiveness on weeds, and the plant being protected, and the technique of granulating herbicides for use against overgrowth in collectors and open drains. Data are presented on the climate, soils, and species composition of the basic weeds in the cotton-growing zone.

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2/2 022

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN ATTACHMENT FOR THE DOUBLE BEAM SPECTROPHOTOMETER, UNICAM TYPE SP-700, IS DESCRIBED FOR MEASURING THE INTENSITY OF LIGHT REFLECTED FROM A 0.5 TIMES 2 MM SURFACE OF A SAMPLE WITHOUT SIGNIFICANT LOSS IN THE INTENSITY OF THE PRIMARY LIGHT BEAM. THE ATTACHMENT CONSISTS OF 3 LENSES AND 2 MIRRORS TO CONC. AND REFLECT THE LIGHT TO AND FROM THE SAMPLE. ITS PERFORMANCE IS EVALUATED BY MEASURING REFLECTION FROM A SAMPLE OF MALCHITE GREEN (I) ABSORBED ON KIESELGUHR (II) FOR LIGHT OF 633 NM USING A 3MM DIAM. TABLET CONTG. 4 MG II. WITH CARE IN POSITIONING THE SAMPLE PLATE PRECISELY, REPRODUCIBILITY OF MEASUREMENTS IS EXCELLENT. THE METHOD IS SENSITIVE TO 2.5 TIMES 10 PRIME NEGATIVE 8 I-G II. THIS IS COMPARABLE TO THE SENSITIVITY OBTAINED BY TRANSMISSION MEASUREMENTS WITH I. FACILITY: LENINGRAD. TEKHNOL., INST. IM. LENSOVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--SPECTROPHOTOMETRIC METHOD FOR DETERMINING SMALL AMOUNTS OF ADSORBED
SUBSTANCES -U-
AUTHOR--(02)--MAJUR, G., ALSKOVSKIY, V.B. A
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, LIGHT REFLECTION,
SPECTROPHOTOMETER/(U)SP700 SPECTROPHOTOMETER

CENTREL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1333 STEP NO--UR/0153/70/013/001/0034/0037
CIRC ACCESSION NO--AP0124983
UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
 CIRC ACCESSION NO--AP0124576
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EPITAXIAL GROWTH OF CDS, CESE, COTE, ZNS, ZNSE, AND ZNTE FILMS ON MICA BY CONDENSATION IN A VACUUM OF 10 PRIME NEGATIVE 4-5 TIMES 10 PRIME NEGATIVE 5 TORR HAS BEEN INVESTIGATED OVER A WIDE RANGE OF TEMPS. RELATIONS BETWEEN EVAPN. TEMP. T_{SUBEV} AND THE EPITAXIAL TEMP. T_{SUBEP} OF SINGLE CRYSTAL FILMS (T_{SUBEV} EQUALS A $\text{SUB1} + T_{\text{SUBEP}}$ AT T_{SUBEP} IS SMALLER THAN OR EQUAL TO 310 DEGREES AND T_{SUBEV} EQUALS A $\text{SUB2} - 2T_{\text{SUBEP}}$ AT T_{SUBEP} IS GREATER THAN OR EQUAL TO 320 DEGREES) AS WELL AS THOSE OF THE TEMP. CONDITIONS OF GROWTH OF SINGLE CRYSTAL FILMS TO MOL. WT. OF CHALCOGENIDES HAVE BEEN OBTAINED. THE MOST PERFECT SINGLE CRYSTAL FILMS GROW AT EPITAXIAL TEMPS. OF 300-320 DEGREES. THE RELATION OF THE CURRENT CARRIER MOBILITY AND SP. RESISTANCE TO THE TEMP. CONDITIONS OF THE SINGLE CRYSTAL FILM GROWTH HAS BEEN INVESTIGATED. THE FILMS OBTAINED EXHIBITED A GREAT VARIETY OF PROPERTIES, E.G. SINGLE CRYSTAL CDSE FILMS HAVE BEEN SYNTHESIZED WITH SP. RESISTANCE OF THE ORDER OF 10 PRIME 5 OHM CM AND WITH A SP. RESISTANCE OF THE ORDER OF 10 PRIME 1-10 PRIME 2 OHM CM WITH QUITE HIGH ELECTRON MOBILITY OF 20-32 CM PRIME 2-V SEC. FACILITY: LENSUVET INST. TECHNOL., LENINGRAD, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--GROWTH AND ELECTROPHYSICAL PROPERTIES OF SINGLE CRYSTAL FILMS OF
CADMIUM AND ZINC CHALCOGENIDES -U-
AUTHOR-(04)-MURAVEVA, K.K., KALINKIN, I.P., ALESKOVSKIY, V.B., BOGOMOLOV,
N.S.
COUNTRY OF INFO--USSR
SOURCE--THIN SOLID FILMS 1970, 5(1), 7-14
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--CHALCOGENIDE GLASS, SINGLE CRYSTAL FILM, CADMIUM SULFIDE,
SELENIDE, TELLURIDE, ZINC COMPOUND, EPITAXIAL GROWTH, ELECTRON MOBILITY,
PHYSICAL PROPERTY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0915 STEP NO--NE/0000/70/005/001/0007/0014
CIRC ACCESSION NO--AP0124576
UNCLASSIFIED

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R002065900014-6

3/3 013 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AP0121085
ABSTRACT/EXTRACT--FACILITY: INSTITUTE OF TECHNOLOGY LENINGRAD,
LENINGRAD.

UNCLASSIFIED

2/3 013

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121085

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RESULTS OF ELECTRON DIFFRACTION INVESTIGATION OF THE COMPOSITION AND STRUCTURE OF AIR ANNEALED SINGLE CRYSTALLINE FILMS AND SINGLE CRYSTALS A PRIMEII B PRIMEVI (CDS, CDSE, CDTE) ARE REPORTED. A PRIMEII B PRIMEVI SINGLE CRYSTALLINE FILMS WERE GROWN BY DEPOSITION FOR VAPOUR ON ORIENTING SUBSTRATES, EITHER ON THE MICA PLANE (001) OR THE NaCl (111) PLANE, WITH WURTZITE STRUCTURE (CDS SUBW, CDSE SUBW), SPHALERITE (CDS SUBS, CDSE SUBS, CDTE SUBS) OR THAT OF ROCK SALT (CDS SUBNaCl). THE LATTICE DIMENSIONS A OF CDS SUBNaCl SINGLE CRYSTALLINE FILMS GROWN ON MICA BY EPITAXIAL GROWTH METHOD WERE FOUND TO BE 5.6 ANGSTROM. IT WAS SHOWN THAT SINGLE CRYSTALLINE LAYERS OF OXYCOMPOUNDS PART OF WHICH POSSES FORMERLY UNKNOWN MODIFICATIONS OF THE HEXAGONAL STRUCTURE WITH THE PARAMETERS A EQUALS 3.3 ANGSTROM C EQUALS 5.25 ANGSTROM A EQUALS 5.5 ANGSTROM C EQUALS 7.0 ANGSTROM A EQUALS 5.3 ANGSTROM C EQUALS 7.0 ANGSTROM WERE FORMED ON THE SURFACE OF LAYERS OF CDS WHEN THE LATTER WERE ANNEALED. CHEMICAL ANALYSIS OF ANNEALED CDS FILMS ENABLED SINGLE CRYSTALLINE SUBSTANCES WITH LATTICE DIMENSIONS A EQUALS 3.3 ANGSTROM, C EQUALS 5.25 ANGSTROM TO BE IDENTIFIED AS POLYMORPHOUS HEXAGONAL CADMIUM OXIDE MODIFICATION. EXPITAXIAL LAYERS OF CDO SURHEX AND CDO SUBNaCl WERE ALSO OBSERVED ON SINGLE CRYSTALS OF CDS AFTER ANNEALING IN AIR. IN ORDER TO FIND OUT THE MECHANISM OF OXYCOMPOUNDS GROWTH THE EFFECT OF CERTAIN FACTORS ON THE STRUCTURE, COMPOSITION AND ELECTROPHYSICAL PROPERTIES (SPECIFIC RESISTANCE OMICRON, MOBILITY OF CHARGE CARRIERS MU) OF INITIAL AND ANNEALED FILMS WAS INVESTIGATED.

UNCLASSIFIED

1/3 013 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--EPITAXIAL GROWTH OF OXYCOMPOUNDS ON THE SURFACE OF SINGLE
CRYSTALLINE FILMS AND SINGLE CRYSTALS OF A PRIMEII B PRIMEVI -U-
AUTHOR-(04)-SERGEYEW, L.A., KALINKIN, I.P., ALESKOVSKY, V.B.,
NECHIPORENKO, A.P.
COUNTRY OF INFO--USSR
SOURCE--KISTALL UND FIZIK, 1970, VOL 5, NR 1, PP 61-72
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--EPITAXIAL GROWTH, SINGLE CRYSTAL FILM, CADMIUM COMPOUND, OXIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0410 STEP NO--GE/0109/70/005/001/0061/0072
CIRC ACCESSION NO--AP0121085
UNCLASSIFIED

3/3 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125204

ABSTRACT/EXTRACT--THE SENSITIVITY OF DETNS. ON PAPER IMPREGNATED WITH A
NONSTOICHIOMETRIC Pb DIETHYLDITHIOCARBAMATE FOR AG AND CU IS THE SAME AS
ON PAPER IMPREGNATED WITH NONSTOICHIOMETRIS (ET SUB2 NOSS) SUB3 FE.

FACILITY: INST. TEXT. LIGHT IND., LENINGRAD, USSR.

UNCLASSIFIED

2/3 015

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125204

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS WERE DEVELOPED FOR THE DETN. OF TRACE AMTS. OF AG, CU, PB, AND CD, SEP., AND IN THE PRESENCE OF EACH OTHER BY PPTN. CHROMATOG. ON PAPER IMPREGNATED WITH FE DIETHYLDITHIOCARBAMATE AND OF AG AND CU, SEP., AND IN THE PRESENCE OF PB AND CD ON PAPER IMPREGNATED WITH PB DIETHYLDITHIOCARBAMATE. FOR QUANT. SELECTIVE CHROMATOG. BY THE PEAK METHOD THE PAPER SHOULD BE IMPREGNATED 1ST WITH THE PPTG. IONS. OPTIMUM CONCNS. OF THE IMPREGNATING NA DIETHYLDITHIOCARBAMATE SOLN. ARE IN AGREEMENT WITH THE SOLY. VALUES OF ET SUB2 NCSSAG AND (ET SUB2 NCSS) SUB2 CU, AND ARE 0.01-0.02PERCENT FOR AG AND 0.03-0.05PERCENT FOR CU. OPTIMUM CONCNS. OF FECL SUB3 ARE IN THE 0.005-0.01PERCENT RANGE FOR AG, CU, PB, AND CD, 0.02-0.03PERCENT FOR A MIXT. OF AG AND CU, 0.03-0.05PERCENT FOR A MIXT. OF AG, CU, PB, AND CE. OPTIMUM CONCNS. OF PB(NO SUB3) SUB2 ARE WITHIN 0.0015-0.05PERCENT FOR AG, 0.005-0.01PERCENT FOR CU, AND 0.02-0.03PERCENT FOR A MIXT. OF AG AND CU. THE SENSITIVITY OF DETNS. OF PAPER IMPREGNATED WITH OPTIMUM AMTS. OF STOICHIOMETRIC PB DIETHYLDITHIOCARBAMATE IS 0.01 MU G (9 TIMES 10 PRIME NEGATIVE10 G,ION) FOR AG, 0.05 MU G (8TIMES 10 PRIME NEGATIVE10 G,ION) FOR CU IS A SAMPLE. THE SENSITIVITY OF DETNS. ON PAPER IMPREGNATED WITH FE DIETHYLDITHIOCARBAMATE IN THE PRESENCE OF AN EXCESS OF PPTG. AMIONS IF 0.5 MU G (4.6 TIMES 10 PRIME NEGATIVE9 G,ION) FOR AG, 0.1 MU G (1.0 TIMES 10 PRIME NEGATIVE9 G,ION) FOR CU, 0.5 MU G (2.5 TIMES 10 PRIME NEGATIVE9 G,ION) FOR PB, 0.2 MU G (2 TIMES 10 PRIME NEGATIVE9 G,ION) FOR CD IN A SAMPLE.

UNCLASSIFIED

1/3 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF MICROAMOUNTS OF CERTAIN CATIONS BY PEAK
PRECIPITATION CHROMATOGRAPHY ON PAPER IMPREGNATED WITH SLIGHTLY SOLUBLE,
AUTHOR--(02)-ALESKOVSKAYA, V.N., ALESKOVSKIY, V.B.
CCOUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 243-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CATION, PAPER CHROMATOGRAPHY, TRACE ELEMENT, SILVER, COPPER,
CADMIUM, LEAD, TRACE ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1581 STEP NO--UR/0075/70/025700270243/0249
CIRC ACCESSION NO--AP0125204
UNCLASSIFIED

2/2 010

UNCLASSIFIED

PROCESSING DATE--0900170

CIRC ACCESSION NO--AP0115713

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS SUGGESTED FOR THE SPECTROPHOTOMETRIC DETN. OF PB, S.PRIME NEGATIVE NEGATIVE AND SO SUB4 PRIME NEGATIVE NEGATIVE IN PBS. TO DET. S PRIME NEGATIVE NEGATIVE, ADD TO THE SAMPLE (0.1-0.35 MG) 10 ML IN HCL AND PASS N FOR 15 MIN. BOIL AND PASS N FOR ANOTHER 45 MIN AT A RATE OF 50 ML-MIN. THE ABSORBER CONTAINS 10 ML OF A MIXT. (ZN ACETATE 43 G-L. AND NABAC 7.5 G-L.) IN 30 ML H SUB2 O. AFTER STOPPING N PASSAGE ADD TO THE ABSORBER SOLN. 1 ML 0.4PERCENT P,AMINO,N,N,DIMETHYLANILINE IN HCL, 1.5 ML 0.4PERCENT FECL SUB3, AND 3 ML HCL, AND DIL. TO 50 ML WITH H SUB2 O. MEASURE THE ABSORBANCE OF THE METHYLENE BLUE AFTER 15 MIN AT 670 NM AND COMPARE WITH A CALIBRATION CURVE PREPD. FROM STD. NA SUB2 S SAMPLES. TO DET. PB, TRANSFER THE SAMPLE TO A 50 ML VOLUMETRIC FLASK AFTER EXPPELLING THE H SUB2 S AND COOLING, ADD 5 ML OF A PH 10 AMMONIACAL BUFFER, THEN 2.25 ML 1 TIMES 10 PRIME NEGATIVE3 M 4,(2,PYRIDYLAZO)RESURCINOL, AND DIL. TO VOL. WITH H SUB2 O. MEASURE THE ABSORBANCE AT 516 NM AND COMPARE WITH READINGS OF STD. PB(NO SUB3) SUB2 SAMPLES. FACILITY: LENINGRAD TECHNOL. INST., LENINGRAD, USSR.

UNCLASSIFIED

1/2 010 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--SPECTROPHOTOMETRIC ANALYSIS OF MICROSAMPLES OF LEAD SULFIDE FOR
MAIN COMPONENTS -U-
AUTHOR-(03)-STEPANOVA, A.N., BULATOV, M.I., ALESKOVSKIY, V.B.
COUNTRY OF INFO--USSR
SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 380-2
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, LEAD SULFIDE, MICROCHEMICAL
ANALYSIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1994/1894 STEP NO--UR/0075/70/025/002/0330/0382
CIRC ACCESSION NO--AP0115713
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0115717

ABSTRACT/EXTRACT--(U) CP-O- ABSTRACT. BY CONDENSATION AT 10 PRIME
NEGATIVE4 MINUS 10 PRIME NEGATIVE5 MM HG, SINGLE CRYSTAL FILMS OF CD AND
ZN CHALCOGENIDES ON MICA (MUSCOVITE), GE (N AND P TYPE), GAAS (N AND P
TYPE), AND CDS WERE STUDIED. AT AN EPITAXIAL TEMP. OF 250-300DEGREES
THERE EXISTS A RELATION BETWEEN THE MOL. WT. OF THE CHALCOGENIDES AND
THE DIFFERENCE BETWEEN THE TEMPS. OF THE VAPORIZER AND THE SUBSTRATE.
THE CONDITIONS OF THE PREPN. OF SINGLE CRYSTAL FILMS DEPEND BUT WEAKLY
ON THE NATURE OF THE INVESTIGATED SUBSTRATES. THE PHASE COMPN. OF THE
FILMS PREPD. DEPENDS ON EPITAXIAL TEMP., CONDENSATION RATE, NATURE OF
THE ORIENTING SUBSTRATES, AND CONSTRUCTION OF THE VAPORIZER.
FACILITY: LENINGRAD. TEKHNOL. INST. IM. LENSUVETA, LENINGRAD, USSR.

UNCLASSIFIED

1/2 030 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--GROWTH AND STRUCTURE OF SINGLE CRYSTAL FILMS OF CADMIUM AND ZINC
CHALCOGENIDES -U-
AUTHOR--(05)--MURAVYEVA, K.K., KALINKIN, I.P., SERGEYEVA, L.A., ALESKOVSKIY,
V.B., BUGOMOLOV, N.S.
COUNTRY OF INFO--USSR
SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 434-40
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, PHYSICS
TOPIC TAGS--MICA, CADMIUM, ZINC, SINGLE CRYSTAL FILM, VAPORIZATION,
THERMAL EFFECT, MOLECULAR WEIGHT, SINGLE CRYSTAL GROWTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1994/1898 STEP NO--UR/0363/70/006/003/0434/0440
CIRC ACCESSION NO--AP0115717
UNCLASSIFIED

USSR

KALINKIN, I. P., et al., Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy, Vol 6, No 9, Sep 70, pp 1564-1567

Conditions are described for the production of single-crystal CdSe films with a mobility of up to $180 \text{ cm}^2/\text{v. sec.}$ close to the properties of the single crystals. Perfect CdS and CdSe films with a resistivity of up to 10^7 - 10^9 ohms per sec were synthesized. The method of coevaporation with chalcogene gives perfect high-resistance single-crystal CdS and CdSe films with a hole mobility of 0.8 - $2.4 \text{ cm}^2/\text{v. sec.}$

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USSR

UDC 546.48'22 + 546.3'22

KALINKIN, I. P., MURAV'YEVA, R. R., YURGEN', I. B., GUSEV, V. B.,
and ANIKIN, I. N., Leningrad Technological Institute imeni Lensovet

"Production of Single-Crystal CdS and CdSe Film Under Conditions
Close to Equilibrium"

Moscow, Izvestiya Akademii Nauk SSSR -- Neorganicheskiye Materialy,
Vol 6, No 9, Sep 70, pp 1564-1567

Abstract: The article suggests a method for the synthesis of single-crystal CdS and CdSe films using vacuum condensation on orienting substrates (synthetic mica (fluorophlogopite) or leucosapphire) in a wide temperature range (300-800° C) under conditions close to thermodynamic equilibrium. The structure of epitaxial films of CdS and CdSe is no less perfect than single crystals (number of dislocations 10^{-3} - 10^{-5} cm⁻²). A study was made of the effect of process parameters on the degree of structure perfection of the CdS, CdSe epitaxial films and their electrical properties. The suggested method permits the growth of single-crystal CdS and CdSe films with a wide range of properties.

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ISHKOVYANA, N.K., KISHINEV, I.P., GURGENYANA, L.A., ZHURAVYAN, L.L.,
L.S., Leningrad Technological Institute (Leningrad, Leningrad, Leningrad) and
Secondary Specialized Education RSPER

"Investigation of Growth and Structure of Single Crystalline Films of Lead and
Zinc Chalcogenides"

Moscow, Neorganicheskaya Khimiya, Vol 6, No 4, 1970, 14 pages

Abstract: The method of growth of a variety of single crystalline films of lead and zinc chalcogenides (lead sulfide, lead selenide, lead telluride, germanium (1- and 2-axes), 2- and 3-axes) and films of lead chalcogenides that with an epitaxial temperature of 10-100°C, and films of lead chalcogenides with the molecular weight of the chalcogenides and the different growth temperatures of evaporation and substrate. The films were grown under various conditions depend little on the nature of the substrate (silicon, glass, etc.) composition of the films produced depends on the epitaxial temperature, evaporation rate, type of orienting substrates and evaporator design. Single crystalline films of CdTe of perfected structure with carrier mobility of 1000 cm²/v-sec were grown in a closed crucible under near-isothermal conditions.

2/2 027

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121091

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN VACUUM 10 PRIME NEGATIVE4-10 PRIME NEGATIVE5 TORR MONOCRYSTALLINE THIN LAYERS OF CDS, CDSE, CDTF, ZNS, ZNSE, ZNTE WERE PREPARED ON MICA, (111) SURFACES OF GERMANIUM AND GALLIUM ARSENIDE SINGLE CRYSTALS AND (0001) AND 1120) CADMIUM SULPHIDE SURFACES. THE FILM STRUCTURES AND SOME OF THEIR PROPERTIES (CONDUCTIVITY, N OR P MOBILITIES) WERE SHOWN TO DEPEND ON TEMPERATURE CONDITIONS OF FILM PREPARATION. IT WAS SHOWN EXPERIMENTALLY THAT IN THE CASE OF MONOCRYSTALLINE THIN FILMS OF ZINC AND CADMIUM CHALCOGENIDES THERE IS A CORRELATION BETWEEN EVAPORATION AND EPITAXY TEMPERATURES OF FILM PREPARATION. STRUCTURE AND PHASE COMPOSITION OF MONOCRYSTALLINE LAYERS ARE CONNECTED WITH THE NATURE OF SUBSTRATE SUBSTANCES USED (INCLUDING POLARITY OF (111) DIRECTION IN GALLIUM ARSENIDE AND (0001) DIRECTION IN CADMIUM SULPHIDE). FACILITY: INSTITUTE OF TECHNOLOGY LENSOVIETA, LENINGRAD.

UNCLASSIFIED

1/2 027 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--GROWTH AND STRUCTURE OF MONOKRISTALLINE FILMS OF A PRIMEVI B
PRIMEVI COMPOUNDS -U-
AUTHOR-(05)-KALINKIN, I.P., MURAVYEVA, K.K., SERGEYEN, L.A., ALESKOWSKY,
V.B., BODOMOLOV, N.S.
COUNTRY OF INFO--USSR

SOURCE--KRISTALL UND TECHNIK, 1970, VOL 5, NR 1, PP 51-59

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--SINGLE CRYSTAL FILM, SELENIDE, TELLURIDE, ZINC COMPOUND,
CADMIUM SULFIDE, GERMANIUM, GALLIUM ARSENIDE, CHALCOGENIDE GLASS,
EPITAXIAL GROWTH, SURFACE FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0417 STEP NO--GE/0109/70/005/001/0051/0059

CIRC ACCESSION NO--AP0121091
UNCLASSIFIED

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Article by **L. I. SEMENOVA**, **L. F. FALIKOVA**, **L. K. MURZAYEV**, **V. B. ALEXANDROV**, **L. A. ALEXANDROVA**, **Center for Materials Research, Institute for Problems in Mechanics, Russian Academy of Sciences, Moscow, 125080, USSR**

a) In the nucleation stage on the substrate, two types of particles are observed: small particles with triangular faceting (the cubic phase) and larger unfaceted particles.

of the nature of the variation in altitude and transverse dimensions of the particles with time permitted establishment of the predominant effect of the surface diffusion during the growth process.

c) The falling coefficients for each type of particle as a function of the coalescence time permitted establishment that the phase composition of the continuous film is determined by the ratio of the areas occupied by particles of each type directly before coalescence which, in turn, is determined by the synthesis thermodynamics.

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V-12. EPITAXY OF FILMS OF CHALCOGENIDE COMPOUNDS OF CADMIUM IN A QUASI-CLOSED SPACE

[Article by Yu. P. Yelovskiy, I. P. Kalitayn, N. K. Murav'yeva, V. B. Alekseyevskiy, Lendobitskiy, Novosibirsk, III Sibirskiy nauchnyy kongress, 1972, p. 63]
 1. Poluprovodnikovyye Kristally i Ploshch. Rostom, 1972, June, 1972, p. 63]
 A study was made of the epitaxial growth of sulfide, selenide and telluride compounds of cadmium on mica substrates by condensation from the gas phase in a quasi-closed space in the temperature range of $T = 500-750^{\circ}\text{C}$. True $T = 400-750^{\circ}\text{C}$.

1. The film morphology and structure, the phase composition of the films as a function of T and T_{true} were investigated. The growth regions of the cubic, hexagonal and mixed (cubic plus hexagonal) monocrystalline films were investigated. It was demonstrated that in the quasi-closed volume it is possible to synthesize epitaxial films at low substrate temperatures. Under conditions close to thermodynamic equilibrium, films grow the electrophysical properties of which are close to the properties of single crystals.

2. The dependence of the growth rate (μ) of the epitaxial films on T ($\mu = f(T)$) for $T_{\text{true}} = \text{const}$ is of a complex nature and is satisfactorily explained beginning with the theory of the growth kinetics of semiconductor films developed by L. N. Aleksandrov.

3. The proposed method of synthesizing the films permitted quantitative tracing of the effect of the excess pressure of each of the gas-phase components (cadmium, sulfur, selenium, tellurium) on the epitaxy of the cadmium chalcogenide films. A study was made of the interrelation between a) $\mu = f(T_{\text{Cd}})$ (for $T_{\text{true}} = \text{const}$, $T_{\text{true}} = \text{const}$) and the gas phase composition; b) the gas phase composition and the film morphology.

USSR

UDC 621.385.632

ALESKOYSHIY, A.M., ZAMORZKOV, B.M., MEL'NIKOV, V.F., MURAV'YEV, A.A., RADYUK, O.M.

"Experimental Investigation Of Persistence Of Beam Plasma In TWT"

Elektron. tekhnika. Nauchno-tekhn. sb. Elektron. SVCh (Electronic Technology.
Scientific-Technical Collection. Microwave Electronics), 1970, Issue 11, pp 59-63

Translation: The paper investigates the persistence of disintegrating beam plasma in a medium-power traveling-wave tube, with the object of detecting possible distortions of the information on the structure of the beam by use of the photoregistration method. It is established that in the region where glow fills all the flight channel, distortions are possible, caused by the appearance in the beam of slow secondary electrons. 2 ref. Summary.

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3/3 015 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125204
ABSTRACT/EXTRACT--THE SENSITIVITY OF DETNS. ON PAPER IMPREGNATED WITH A
NONSTOICHIOMETRIC Pb DIETHYLDITHIOCARBAMATE FOR AG AND CU IS THE SAME AS
ON PAPER IMPREGNATED WITH NONSTOICHIOMETRIS (ET SUB2 NCSS) SUB3 FE.
FACILITY: INST. TEXT. LIGHT IND., LENINGRAD, USSR.

UNCLASSIFIED

2/3 015. UNCLASSIFIED PROCESSING DATE--30OCT70
 CIRC ACCESSION NO--AP0125204
 ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. METHODS WERE DEVELOPED FOR THE
 DETN. OF TRACE AMTS. OF AG, CU, PB, AND CD, SEP., AND IN THE PRESENCE OF
 EACH OTHER BY PPTN. CHROMATOG. ON PAPER IMPREGNATED WITH FE
 DIETHYLDITHIOCARBAMATE AND OF AG AND CU, SEP., AND IN THE PRESENCE OF PB
 AND CD ON PAPER IMPREGNATED WITH PB DIETHYLDITHIOCARBAMATE. FOR QUANT.
 SELECTIVE CHROMATOG. BY THE PEAK METHOD THE PAPER SHOULD BE IMPREGNATED
 1ST WITH THE PPTG. IONS. OPTIMUM CONCNS. OF THE IMPREGNATING NA
 DIETHYLDITHIOCARBAMATE SOLN. ARE IN AGREEMENT WITH THE SOLY. VALUES OF
 ET SUB2 NCSSAG AND (ET SUB2 NCSS) SUB2 CU, AND ARE 0.01-0.02PERCENT FOR
 AG AND 0.03-0.05PERCENT FOR CU. OPTIMUM CONCNS. OF FECL SUB3 ARE IN THE
 0.005-0.01PERCENT RANGE FOR AG, CU, PB, AND CD, 0.02-0.03PERCENT FOR A
 MIXT. OF AG AND CU, 0.03-0.05PERCENT FOR A MIXT. OF AG, CU, PB, AND CE.
 OPTIMUM CONCNS. OF PB(ND SUB3) SUB2 ARE WITHIN 0.0015-0.05PERCENT FOR
 AG, 0.005-0.01PERCENT FOR CU, AND 0.02-0.03PERCENT FOR A MIXT. OF AG AND
 CU. THE SENSITIVITY OF DETNS. OF PAPER IMPREGNATED WITH OPTIMUM AMTS.
 OF STOICHIOMETRIC PB DIETHYLDITHIOCARBAMATE IS 0.01 MU G (9 TIMES 10
 PRIME NEGATIVE10 G,ION) FOR AG, 0.05 MU G (8TIMES 10 PRIME NEGATIVE10
 G,ION) FOR CU IS A SAMPLE. THE SENSITIVITY OF DETNS. ON PAPER
 IMPREGNATED WITH FE DIETHYLDITHIOCARBAMATE IN THE PRESENCE OF AN EXCESS
 OF PPTG. ANIONS IF 0.5 MU G (4.6 TIMES 10 PRIME NEGATIVE9 G,ION) FOR AG,
 0.1 MU G (1.0 TIMES 10 PRIME NEGATIVE9 G,ION) FOR CU, 0.5 MU G (2.5
 TIMES 10 PRIME NEGATIVE9 G, ION) FOR PB, 0.2 MU G (2 TIMES 10 PRIME
 NEGATIVE9 G,ION) FOR CD IN A SAMPLE.

UNCLASSIFIED

1/3 015 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--DETERMINATION OF MICROAMOUNTS OF CERTAIN CATIONS BY PEAK
PRECIPITATION CHROMATOGRAPHY ON PAPER IMPREGNATED WITH SLIGHTLY SOLUBLE
AUTHOR--(02)-ALESKOVSKAYA, V.N., ALESKOVSKIY, V.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 243-9

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATION, PAPER CHROMATOGRAPHY, TRACE ELEMENT, SILVER, COPPER,
CADMIUM, LEAD, TRACE ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--2000/1581

STEP NO--UR/0075/70/025/002/0243/0249

CIRC ACCESSION NO--AP0125204

UNCLASSIFIED

USSR

ALESKEROV, V. G., Tr. Bakin. Fil. VNI Vodosnabzh., Kanaliz., Gidrotekhn. Sooruzh. i Inzh. Gidrotekhn., No 6, 1971, pp 96-102.

water and of a stream of hydraulic fluid increases the intensity and frequency of velocity pulsations. A damping effect of turbulent velocity pulsations by suspended particles was noted, greater, the greater their hydraulic grain size.

USSR

ALESKEROV, V. G.

"The Structure of a Turbulent Flow of Hydraulic Fluid Without Head on the Example of the Longitudinal Velocity Component"

Tr. Bakin. Fil. VNI Vodosnabzh., Kanaliz., Gidrotekhn. Soorush. i Inzh. Gidrogeol. [Works of Baku Affiliate of All-Union Scientific Research Institute for Water Supply, Sewerage, Water Engineering and Engineering Hydrogeology], No 6, 1971, pp 96-102, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 B506 by the author).

Translation: Results are studied from an experimental investigation of certain characteristics of the pulsation of the longitudinal velocity component in a stream of hydraulic fluid without head. The consistency of the stream studied was increased to 1.24 g/cm^3 . Measurements were performed across a mean vertical. The tensometric velocity sensor used in the studies is based on the principle of the dynamic action of the stream on a receiving element. Special studies established the limits of applicability of the sensor with a minimum coefficient of amplitude distortion and elimination of self-oscillations of the elastic system. The change in the nature of distribution of velocities by depth of the stream upon increasing consistency of the fluid was established. An increase in the mean velocity both of a stream of pure $1/2$

USSR

UDC 6-96

ALESKEROV, A. S., EFENDIYEV, S. S., and GUSEYNOVA, S. M.

"Changes in Relation to the Season of the Year in the Amount of Antibiotic- and Sulfanilamide-Resistant Conditionally Pathogenic Microorganisms Isolated From Sea Water"

Baku, Izvestiya Akademii Nauk Azerbaydzhanskoj SSR, Seriya Biologicheskikh Nauk, No 3, 1971, pp 123-126

Abstract: Seasonal changes in the amount of antibiotic- and sulfanilamide-resistant conditionally pathogenic and pathogenic microorganisms (*E. coli*, *Bact. paracoli*, *Proteus vulgaris*, *Ps. aeruginosa*, and *Staph. aureus*) isolated from the water of Baku Bay, the sea water of Apsheron beaches, and the sewage effluent released into the sea were studied. It was established that as a result of the injudicious use of antibiotics and sulfa drugs in large amounts, pathogenic and conditionally pathogenic microorganisms had developed resistance. *Staph. aureus* isolated from sea water was highly sensitive to penicillin, tetracycline, levomycetin, and sulfanilamide drug. The amount of resistant conditionally pathogenic microorganisms isolated from Apsheron sea water was highest in the summer. The condition which develops in this respect in the summer is an epidemiological hazard.

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USSR

ALESHKYAVICHENYE, A. E., Lit. mat. sb., Vol 11, No 3, 1971, pp 477-496.

$$\sqrt{n} P\{N(x) = n\} = \frac{a}{\sqrt{2\pi}} e^{-\frac{(x-na)^2}{2a^2}} \rightarrow 0 \quad (1)$$

evenly with respect to x , $0 < \delta < x < \infty$. If distribution $F(x)$ is reticular or has limited density, the rate of convergence is found for formula (1).